

# AJS

American

Journal

Sociology

Volume 100 Number 1

1994

*The Era of Sociology—Small  
Durkheim, Montesquieu, and Method—Jones  
The Transition from Socialism—Róna-Tas  
Shifts in Political Identification—Haynes and Jacobs  
Ecological Dynamics of Careers—Haveman and Cohen  
Age, Class, and Inequality in Public Spending—Pampel  
Antibusing Activity in Contemporary America—Olzak,  
Shanahan, and West*

The University of Chicago Press

MARTA TIENDA, Editor

WILLIAM G. AXINN, IVAN ERMAKOFF, MARTIN RIESEBRODT, ROBERT J. SAMPSON, and KAZUO YAMAGUCHI, Associate Editors

MARY C. BRINTON, Associate Editor, Book Review

DAVID LINDSTROM, Assistant Book Review Editor

MARY BLAIR-LOY, GRACE KAC, CHAN-UNG PARK, and ALFORD A. YOUNG, JR., Book Review Editorial Board

SUSAN ALLAN, Managing Editor

LAUREN FORD-TAGGART and CLAIRE JAMES, Editorial Assistants

**Consulting Editors** PAUL D. ALLISON • PETER BEARMAN • ROBERT J. BURSİK, JR. • GLENN R. CARROLL • JOHN CASTERLINE • MARK CHAVES • KAREN COOK • NANCY DAVIS • NANCY DENTON • LAUREN EDELMAN • ROBERT R. FAULKNER • SCOTT FELD • CLAUDE FISCHER • ROBERTO FRANZOSI • NOAH FRIEDKIN • MARK GRANOVETTER • LARRY GRIFFIN • DOUGLAS HECKATHORN • BARBARA HEYNS • FRED KNISS • GARY LAFREE • MARGARET MOONEY MARINI • J. MILLER MCPHERSON • JAMES MONTGOMERY • DANIEL MONTI • JOEL PODOLNY • DUDLEY POSTON • CHARLES RAGIN • CECILIA RIDGEWAY • JOACHIM SINGELMANN • C. MATTHEW SNIPP • GILLIAN STEVENS

**International Consulting Editors** JEAN-FRANCOIS AMADIEU (France) • NORMAN BRAUN (Switzerland) • ANDREAS DIEKMANN (Switzerland) • ULF HANNERZ (Sweden) • PETER HEDSTROM (Sweden) • JOHANNES HUININK (Germany) • NOAH LEWIN-EPSTEIN (Israel) • TOM A. B. SNIJDERS (The Netherlands) • HAYA STIER (Israel) • THOMAS VOSS (Germany) • JEROEN WEESIE (The Netherlands)

**Editorial Board** ANDREW D. ABBOTT • GARY S. BECKER • CHARLES E. BIDWELL • DONALD J. BOGUE • TERRY N. CLARK • JAMES S. CLEMAN • JOHN L. COMAROFF • ROGER V. GOULD • WENDY GRISWOLD • PHILIP M. HAUSER • EVELYN KITAGAWA • EDWARD O. LAUMANN • DONALD N. LEVINE • DOUGLAS S. MASSEY • WILLIAM L. PARISH • MOISHE POSTONE • EDWARD SHILS • GEORGE P. STEINMETZ • ROSS M. STOLZENBERG • FRED L. STRODTBECK • GERALD D. SUTTLES • LINDA J. WAITE • WILLIAM JULIUS WILSON

THE AMERICAN JOURNAL OF SOCIOLOGY (ISSN 0002-9602) is published bimonthly in July, September, November, January, March, and May by The University of Chicago Press, Journals Division, 5720 S. Woodlawn Ave., Chicago, Illinois 60637. Subscription rates, U.S.A.: institutions, 1 year \$87.00; individuals, 1 year \$39.00. Student subscription rate, USA: 1 year \$27.00 (photocopy of valid student ID must accompany subscription). ASA and BSA members, 1 year \$34.00. All other countries add \$9.00 for each year's subscription to cover postage. Canadian subscribers add 7% GST. Subscription agent for Japan: Kinokuniya Company, Ltd. Single copy rates: institutions \$13.35, individuals \$6.25. Volumes 1-90 available from Schmidt Periodicals GmbH, Dettendorf, D-8201 Bad Feilnbach 2, Germany. All volumes are available from University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106; and Kraus Reprint and Periodicals, Route 100, Millwood, New York 10546. Subscriptions are payable in advance. Subscriptions will be entered to start with the first issue to be published after receipt of order. **Postmaster:** Send address changes to *American Journal of Sociology*, The University of Chicago Press, Journals Division, P.O. Box 37005, Chicago, Illinois 60637.

ADVERTISING space in THE AMERICAN JOURNAL OF SOCIOLOGY is available, as is rental of its subscriber list. For information and rates, please contact the advertising sales staff, The University of Chicago Press, Journals Division, 5720 South Woodlawn Avenue, Chicago, Illinois 60637. Advertising and list rental is limited to material of scholarly interest to our subscribers.

**Copying beyond Fair Use.** The code on the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made beyond those permitted by Section 107 or 108 of the U.S. Copyright Law provided that copies are made only for personal or internal use or for the personal or internal use of specific clients and provided that the copier pay the stated per-copy fee through the Copyright Clearance Center, Inc. Operations Center, 27 Congress St., Salem, Massachusetts 01970. *To request permission for other kinds of copying*, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale, kindly write to Permissions Department, The University of Chicago Press, 5801 S. Ellis Ave., Chicago, Illinois 60637. *If no code appears* on the first page of an article, permission to reprint may be obtained only from the author.

Second-class postage paid at Chicago, Illinois, and at additional mailing offices.

© 1994 by The University of Chicago. All rights reserved.

The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI Z39.48-1984. (∞)

CU 2 - H 05491 - 8 - 2817

AJS

*American Journal of Sociology*

Volume 100 No. 1 July 1994

**CONTENTS**

vii Editor's Note

ix Albion Small: The Era of Sociology

1 Ambivalent Cartesians: Durkheim, Montesquieu, and Method  
ROBERT ALUN JONES

40 The First Shall Be Last? Entrepreneurship and Communist Cad-  
res in the Transition from Socialism  
ÁKOS RÓNA-TAS

70 Macroeconomics, Economic Stratification, and Partisanship: A  
Longitudinal Analysis of Contingent Shifts in Political Identifica-  
tion  
STEPHEN E. HAYNES AND DAVID JACOBS

104 The Ecological Dynamics of Careers: The Impact of Organiza-  
tional Founding, Dissolution, and Merger on Job Mobility  
HEATHER A. HAVEMAN AND LISA E. COHEN

153 Population Aging, Class Context, and Age Inequality in Public  
Spending  
FRED C. PAMPEL

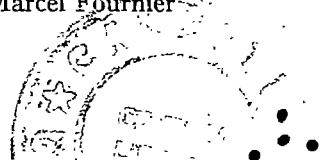
196 School Desegregation, Interracial Exposure, and Antibusing Ac-  
tivity in Contemporary Urban America  
SUSAN OLZAK, SUZANNE SHANAHAN, AND ELIZABETH WEST

**Book Reviews**

242 *Cultural Complexity: Studies in the Social Organization of Mean-  
ing* by Ulf Hannerz  
WENDY GRISWOLD

244 *Cultivating Differences: Symbolic Boundaries and the Making of  
Inequality*, edited by Michèle Lamont and Marcel Fournier  
TIA DENORA

8



- 246 *Pious Passion: The Emergence of Modern Fundamentalism in the United States and Iran* by Martin Riesebrodt  
STEVE BRUCE
- 247 *God's Peoples: Covenant and Land in South Africa, Israel, and Ulster* by Donald Harman Akenson  
JOSÉ CASANOVA
- 249 *The New Politics of Class: Social Movements and Cultural Dynamics in Advanced Societies* by Klaus Eder  
HANSPETER KRIESI
- 252 *The Constant Flux: A Study of Class Mobility in Industrial Societies* by Robert Erikson and John H. Goldthorpe  
HARTMUT KAEUBLE
- 253 *Fertility Change in Contemporary Japan* by Robert W. Hodge and Naohiro Ogawa  
MASANORI HASHIMOTO
- 256 *Rival Capitalists: International Competitiveness in the United States, Japan, and Western Europe* by Jeffrey A. Hart  
ALAN CAWSON
- 258 *Labour and the Political Economy in Israel* by Michael Shalev  
ILAN TALMUD
- 260 *Organizing for Peace: Neutrality, the Test Ban, and the Freeze* by Robert Kleidman  
JAMES M. JASPER
- 261 *Mobilizing against Nuclear Energy: A Comparison of Germany and the United States* by Christian Joppke  
DAVID S. MEYER
- 263 *Engaging the Enemy: Organization Theory and Soviet Military Innovation, 1955-1991* by Kimberly Marten Zisk  
ROGER HAMBURG
- 265 *Knowing Nukes: The Politics and Culture of the Atom* by William Chaloupka  
ANDREW MARCHANT-SHAPIRO
- 267 *Capitalist Development and Democracy* by Dietrich Rueschmeyer, Evelyne Huber Stephens, and John D. Stephens  
DONGNO KIM
- 269 *The Return of Civil Society: The Emergence of Democratic Spain* by Victor Pérez-Díaz  
FELIPE PIMENTEL

K-P-17

301  
Am 35



- 271 *The Limits of Social Democracy: Investment Politics in Sweden*  
by Jonas Pontusson  
MADELAINE GERBAULET-VANASSE
- 273 *In Theory: Classes, Nations, and Literatures* by Aijaz Ahmad  
S. M. SHAMSUL ALAM
- 275 *Ballots and Barricades: Class Formation and Republican Politics in France, 1830-1871* by Ronald Aminzade  
SAMUEL COHN
- 277 *Protecting Soldiers and Mothers: The Political Origins of Social Policy in the United States* by Theda Skocpol  
JOHN MOHR
- 279 *Entitled to Power: Farm Women and Technology, 1913-1963* by Katherine Jellison  
JANE M. PEDERSON
- 281 *The Lost World of the Craft Printer* by Maggie Holtzberg-Call  
ROBERT MAX JACKSON
- 282 *The Craft of Justice: Politics and Work in Criminal Court Communities* by Roy B. Flemming, Peter F. Nardulli, and James Eisenstein  
CELESTA A. ALBONETTI
- 285 *Urban Politics and Policy: A Comparative Approach* by Harold Wolman and Michael Goldsmith  
EDWARD J. BLAKELY
- 287 *The Hollow Core: Private Interests in National Policy Making* by John P. Heinz, Edward O. Laumann, Robert L. Nelson, and Robert H. Salisbury  
PAUL A. SABATIER
- 289 *Sociology and Its Publics: The Forms and Fates of Disciplinary Organization*, edited by Terence C. Halliday and Morris Janowitz  
HOWARD SCHUMAN
- 292 *Legal Construct, Social Concept: A Macrosociological Perspective on Law* by Larry D. Barnett  
ROBIN STRYKER
- 294 *The Costs of Privacy: Surveillance and Reputation in America* by Steven L. Nock  
RICHARD V. ERICSON
- 296 *The Seventh Stream: The Emergence of Rocknroll in American Popular Music* by Philip H. Ennis  
RICHARD A. PETERSON



- 298 *Banking on Fraud: Drexel, Junk Bonds, and Buyouts* by Mary Zey  
KEVIN J. DELANEY
- 300 *Stealing into Print: Fraud, Plagiarism, and Misconduct in Scientific Publishing* by Marcel C. LaFollette  
ALLAN MAZUR
- 301 *Spare Parts: Organ Replacement in American Society* by Renée C. Fox and Judith P. Swazey, with Judith C. Watkins  
GAIL HENDERSON
- 303 *Risk: A Sociological Theory* by Niklas Luhmann  
ALFONSO MORALES
- 305 *Death and Violence on the Reservation: Homicide, Family Violence, and Suicide in American Indian Populations* by Ronet Bachman  
PHILIP A. MAY
- 307 *Masculinities and Crime: Critique and Reconceptualization of Theory* by James W. Messerschmidt  
KATHLEEN DALY
- 309 *Unbearable Weight: Feminism, Western Culture, and the Body* by Susan Bordo  
SUE FISHER

## IN THIS ISSUE

ROBERT ALUN JONES is professor of sociology, history, and religious studies at the University of Illinois in Urbana-Champaign. His major research interests include Durkheim and his intellectual context, the methodology of the history of ideas, and the scholarly use of electronic documents and networked information systems.

ÁKOS RÓNA-TAS is an assistant professor of sociology at the University of California, San Diego. He is doing research on the sociological aspects of the economic transition in Eastern Europe.

STEPHEN E. HAYNES is professor of economics at the University of Oregon. His recent research in political economy concerns the influence of political forces on U.S. unemployment, real growth, and inflation. He is currently working on a study evaluating how U.S. macroeconomic performance influences both political identification and disaggregate presidential popularity and how these factors interact to determine aggregate presidential popularity.

DAVID JACOBS, professor of political science at the University of Oregon, is a sociologist interested in political economy and organization theory. Current projects include longitudinal studies of political change and work on the politics of criminal justice outcomes. His article on organization theory and dual labor markets will appear in *Research in Social Stratification and Mobility*.

HEATHER A. HAVEMAN is an associate professor of organizational behavior at the S. C. Johnson School of Management, Cornell University. Her research focuses on the antecedents and consequences of change in the structure and activities of organizations, the evolving demography of organizational populations, and the consequences of organizational dynamics for career mobility and turnover.

LISA COHEN is a doctoral student in organizational behavior and industrial relations at the University of California, Berkeley. Her research interests are in the organization of work and occupations.

FRED C. PAMPEL is professor of sociology and research associate in the Population Program at the University of Colorado, Boulder. He is currently studying how the relationships between age structure and a variety of social and demographic outcomes, such as fertility, homicide, suicide, and welfare spending, vary with the institutional and political environments of high-income democratic nations.

SUSAN OLZAK is an associate professor at Stanford University. Her current research includes a comparative project analyzing the event histories of contemporary ethnic/racial unrest in South Africa and the United States (with Johan L. Olivier), analysis of the causes of urban race riots (with Suzanne Shanahan), and an examination of the impact of civil rights protests and racial confrontations on the growth of African-American organizations (with Elizabeth H. McEneaney).

SUZANNE SHANAHAN is a doctoral candidate in sociology at Stanford University. Her dissertation explores the political constitution of racial/ethnic identities in comparative perspective.

ELIZABETH WEST is a postdoctoral fellow in the Department of Sociology at McGill University and the Centre de Recherche en Droit Public at the University of Montreal. She is currently engaged in a study of ethnic and labor newspapers and is collaborating on studies of financial institutions and decision-making processes within organizations.

## Editor's Note

This first issue of volume 100 marks the centennial of the *American Journal of Sociology*, the oldest sociological journal in the United States. Although I do not believe that a general interest sociological journal should feature thematic issues, the occasion of the centennial does warrant some special activity. Therefore, I thought it fitting to recollect our beginning and to peruse our history. To accomplish this, the associate editors and I have decided to republish Albion Small's original mission statement for the *Journal*, which appeared in the first issue of volume 1.

Albion Small's legacy in sociology rests on two foundations: the Department of Sociology at the University of Chicago and the *American Journal of Sociology*, both of which he founded at the turn of the 19th century. The Sociology Department at Chicago, the first of its kind in the country, was established in 1892 when Small was named head professor in sociology. In charting the mission of the *American Journal of Sociology*, Small explicitly intended a broad reach in substance, theory, and methods, which he and his successors pursued assiduously. Small's tireless efforts as a disciplinary pioneer included over 30 years of service as editor of the *Journal* (1895–1926, vols. 1–31). In addition, the *Journal* benefited from the intellectual leadership of Ellsworth Faris (1933–36, vols. 32–38), Ernest W. Burgess (1936–1940, vols. 39–41), Herbert Blumer (1940–52, vols. 46–57), Everett Hughes (1942–57, vols. 58–62, and 1959–60, vols. 64–66), Peter Rossi (1957–58, vols. 63–64), Peter Blau (1960–66, vols. 66–71), C. Arnold Anderson (1966–73, vols. 72–78), Charles E. Bidwell (1973–78, vols. 79–83), Edward O. Laumann (1978–84, vols. 84–89), and William L. Parish (1984–92, vols. 90–97). To them and their associate editors throughout the years, the discipline and profession owe an enormous debt.<sup>1</sup>

Many of our readers should find this history of great interest, and current editors whose three- to six-year terms seem long and arduous should note the three-decade tenure of Small. That his editorship took place under a vastly different technological regime makes this accomplishment all the more impressive.

The *AJS* centennial will be celebrated in several ways. First, the board has invited a series of essays that reflect on various aspects of our discipline and profession, both in a historical sense and in what the future holds. These will appear throughout volume 101, the beginning of the *Journal's* second century. In addition, we are exploring the possibility of publishing papers on the role of social sciences, and sociology in particular, in explaining and predicting political upheavals and social transfor-

<sup>1</sup> From 1926 to 1933 (vols. 32–37), the *Journal* was coedited by several members of the department. These included Ellsworth Faris, Ernest W. Burgess, Robert E. Park, Fay-Cooper Cole, Edward Sapir, Louis Wirth, Eyer N. Simpson, Marion Talbot, Frederick Starr, William Fielding Ogburn, Robert Redfield, Herbert Blumer, Edward J. Webster, Paul F. Cressey, and Edward H. Sutherland.

mations. Some of you may have heard these papers presented last summer. The versions under consideration here have been revised and are currently undergoing peer review. I have great hopes for this project. Finally, I am planning a review article that focuses on the contents of the *Journal* during the last 50 years. In volume 50, Ethel Shanas provided a "distribution of space" for various topics in sociology as examined in the 2,373 articles the *AJS* had published to that date. The centennial warrants another "interpretive stocktaking," which we hope will be substantively informative as well as thought provoking about the course of the *Journal* and the discipline as a whole.

As I reflected on the past century of publishing sociological scholarship in the *American Journal of Sociology*, I was struck by the impressive talent that previous editors have drawn upon to develop the contemporary peer review process and to set the highest standards of scientific rigor for our discipline. Modern-day editors owe a great debt to prior colleagues whose dedication and service have made the *Journal* what it is today. The future, however, is even more promising and challenging, not only because of the increased diversity of the discipline and the challenges and opportunities afforded by technological resources but also because technical sophistication often blurs substantive contributions.

The continued success of the *AJS* as one of the prominent general interest sociological journals depends greatly on the dedication of our colleagues who give generously of their time in service. I would like to take this opportunity to thank all of our colleagues who have assisted my predecessors and me in the editorial process at the *American Journal of Sociology*. And I would like to reiterate my invitation to all readers, and young scholars in particular, to participate in our second century by serving as reviewers, authors, and commentators. The continued success of the *Journal* depends on this participation.

MARTA TIENDA

# THE AMERICAN JOURNAL OF SOCIOLOGY

VOLUME I

JULY, 1895

NUMBER I

## THE ERA OF SOCIOLOGY.

SOCIOLOGY has a foremost place in the thought of modern men. Approve or deplore the fact at pleasure, we cannot escape it. Examination of the fact in a few of its relations will properly introduce a statement of the aims of this JOURNAL.

I. *In our age the fact of human association is more obtrusive and relatively more influential than in any previous epoch.* Modern men are made aware in more ways than former generations that their lot is affected by the existence of other men. Wherever the proportion of laborers in the extractive industries is diminishing and the proportion of people occupied with intermediate processes of production and consumption is correspondingly increasing, it would be surprising if the change were not accompanied by some modifications in men's views about the relative importance of the physical and the social elements in the conditions of human existence. As industries become diversified, as division of labor and competition become territorial and international, not less than individual, as occupations are more visibly affected by the actions of distant persons, as communication becomes accurate and rapid between groups of men industrially related though geographically separate, perception of dependence upon physical conditions ceases to be the dominant factor in human calculation. Perception of subjection to human devices or of advantage to be won by personal combinations becomes decisive.

The ranchman in Montana who has safely wintered his herd but cannot ship them to a market because a manufacturer in Illinois has failed to preserve an understanding with coal heavers and machinists and carpenters; the miner in Nevada who ferrets out a coincidence between certain acts of legislation and the decline of his silver in value; the rolling-mill operative in Pennsylvania who discovers that a body of men in Washington may vote an increase or decrease of his work and wages—all these and the rest represented by them learn to disregard the fixed factors in human relations, and instead to watch other players in the game of life as exclusively as opponents at the chessboard or rival teams on gridiron or diamond.

Through influences such as these it comes about that the fact of human association becomes a most intimate reality to the great masses of men long before philosophers have begun to learn its import.

II. *The distinguishing mental trait of our age is undisciplined social self-consciousness.* Men are more definitely and variously aware of each other than ever before. They are also more promiscuously perplexed by each other's presence. We sometimes credit our generation with perceiving that we are members one of another, but the content of popular consciousness is more precisely rendered in the version, "*meddlers one with another.*" We know just enough about social contacts to regard man as the animal that makes the most trouble for its own species. Whatever be men's aims or acts it seems impossible for them to venture upon an enterprise so rare that collision can be avoided with the anticipating prejudice, property, or purpose of other men. The fate that goes with us or against us into our battle no longer seems to be a power of nature, or a superhuman champion, but merely detached or confederate human volition. Whatever modern men's theory of the social bond, no men have ever had more conclusive evidence that the bond exists.

III. *This inevitable contact of man with men has produced confident popular philosophies of human association.* Social self-consciousness formulates itself as guiding assumption or as controlling



dogma. Modern men are not merely aware of these contacts with compatriot and alien, official and civilian, wage-earner and wage-payer, capitalist and landlord and tenant, union and non-union laborer, brain-worker and brawn-worker, industrial and criminal, rich and poor seekers of employment and shunners of employment. Men of all ranks and stations think over these contacts, they listen to arguments about them, they acquire opinions, they accept beliefs.

Before the invention of printing an occasional individual reflected upon societary relations in the large. In the last quarter of the eighteenth century social philosophy had broken out of the schools and in one country had enlisted popular strength enough to destroy a decaying dynasty. In the last decade of the nineteenth century, illiterates are become a feeble minority in the chief countries of civilization and the whole population that can read, with many additions from those who cannot, maintain in perpetual session a lyceum of sociology. If a little learning is a dangerous thing, jeopardy from that source is today universal. The millions have fragmentary knowledge of societary relations, and they are trying to transmute that meager knowledge into social doctrine and policy. The peculiar element of danger in the situation was just now suggested. Modern thought assumes that the fixed factors in human conditions are insignificant as compared with the elements that may be determined by agreement. Popular judgment is just now intoxicated with the splendid half truth that society is what men choose to make it. Popular social philosophy in its countless forms is today unanimous in speculation about institutional rearrangement without due estimate of human limitations.

IV. *Popular social philosophy has its counterpart today in a social gravitation or "movement" in the line of certain sympathies and assumptions begotten and fostered by reflection on contemporary societary conditions. In this movement some of the ultimate determinants of human destiny are emerging, yet the play of these profound forces is inconstant and erratic because at present they are almost as enigmatical to the men who trust as to*

those who challenge them. This movement combines with elements of promise all the elements of danger to which we referred above. It has recently been characterized by Professor Graham Taylor, whose vigorous language we quote, although it implies dissent from portions of the thought just expressed.

Only an intelligent appreciation of what the present sociological movement is qualifies one even to guess what the church may expect from it. Were it merely some or all of the forms in which it finds expression in current literature or present-day effort the question would perhaps admit of briefer and more definite answer. Whoever regards it, whether as claimant or critic, to be merely a species of literature, or the ideal of a few leaders of thought and action, or the copyrighted effusions of any particular school of theorists, or any mere method of work, or the fad of the fashionables, so totally misconceives the movement as to be incapable of seriously entertaining the idea of any vital relationship between it and the church, on the common ground of Christianity.

The conviction that it is nothing less than the social movement of modern life underlies this discussion, and alone warrants its suggestions. It is simply the way life is moving today, and along which "leaders" are really following afar off. It is the direction which the course of human affairs is taking, and would take if there were no distinctively sociological literature to record the watermarks of its progress. It is the new-born consciousness in the many of each other's existence and of the relationship of each to all as members one of another. This consciousness is born of God and these times, when "no man liveth unto himself," whether he would or not. It is the movement of the common mind to understand the complex relations of man to man in modern society, and to forge out the science and arts of living and working together. It is the movement of the common heart to realize the undying hope of social justice and human brotherhood. It is the movement of the common will to find and apply some adjustment of the disturbed relationships and dislodged classes, caused by the most revolutionary force ever introduced into human affairs, except the gospel, viz., the modern industrial system.

The present sociological movement stands for all this and more, when it is considered in relation to the church. Its science of sociology, however, is rapidly formulating the data and province of that

## THE ERA OF SOCIOLOGY.

branch of scientific research which is strictly limited to the study of society as a whole, and the social sciences are laying the basis for the practical arts of living and working together within the specific classes and conditions to which the several social structures give rise. But while these new sciences are the vital self-expression of, and are absolutely essential to, the perpetuity, progress and power of the movement, they are and ever will be *far from being identical with it or comprehensive of it*. For this movement of life so far transcends the best efforts to formulate it, that it almost reduces them to an absurdity to identify them with it. This movement has its observers, but recognizes no authorities. It has its interpreters, but no line of thought or action has less human leadership. It is the mighty "Zeitgeist," the very spirit of all living, to which our Lord's description of the Holy Spirit may as truthfully, as reverently be applied, "It bloweth where it listeth, and thou hearest the voice thereof, but knowest not whence it cometh and whither it goeth." In its presence only the religious spirit and the scientific attitude are worthy of respect.<sup>1</sup>

This peculiar popular unrest of our era corresponds with two postulates of social philosophy held today in every variety of form and force by unprecedented numbers, first, that the relations of man to man are not what they should be; second, that something must be done directly, systematically and on a large scale to right the wrongs.

In thus pointing out that popular agitation for a remodeling of our social structure, and the logically antecedent popular philosophies of society are not chiefly academic facts, and that they are altogether more extensive than the scope of scholars' influence, we are calling attention to points in the situation which few theorists have duly considered. The relation of popular sociology to would-be scientific sociology should be settled in the minds of scholars before more confusion results. Altogether too much has been charged or credited to the professional students of society.

The fact that sociology is not primarily a product of the schools has escaped the attention of most observers. Popular attempts to explain present forms of society, and to get favor-

<sup>1</sup> *The Advance*, June 20, 1895.

ably placed for effecting change in social conditions are as independent of the schools as they are of the seasons. Some scholars are still of the opinion that sociology is not only without form and void, but that it must forever remain so, because nothing in the nature of things sanctions it; and the name is therefore merely a device to give new theorists a place. These critics know little about the deep currents of present popular thought. It is a very callow sociologist who imagines that he and his collaborators are inventing the subject-matter of a new science. They are trying to perfect means of answering obtrusive questions about society which the ordinary man is proposing every hour. They are not creating but merely representing popular curiosity. Life is so much more real to the people than to the schools that the people are no sooner possessed of some of the tools of thought, and some means of observation, than they proceed to grapple with more vital questions than the scholars had raised. Hence social philosophies, popular in source, partial in content, but potent in political effect, get vogue before scholars know the terms of the conditions which these rule-of-thumb philosophies claim to explain. The doctrines of professional sociologists are attempts to substitute revised second thought for the hasty first thoughts composing the popular sociologies in which busy men outside the schools utter their impressions.

V. *The facts thus sketched constitute a strenuous demand for authentic social philosophy.* Are men on the whole sane, or hysterical, or possibly paranoiac, in their attitude toward real and possible social conditions? Are the postulates of our social introspection valid or invalid? Have we learned all that can be known about the antecedents of present conditions, about the standards by which these conditions should be judged, about the type of future conditions toward which it is rational to aim, about the means at the disposal of man for the creation of a different social order? Unless they have a monopoly of such fundamental and circumstantial and comprehensive social philosophy, accredited by every pertinent scientific sanction, many men exercising the

office of public teacher today are grievously sinning against their fellows by aggressive and inflammatory sociological dogmatism. Science makes common cause with every other human interest when it insists that there must be adequate investigation and formulation of the conditions of human welfare before there can be any credible programmes for the wholesale promotion of welfare. The institutions which our generation inherits may be very crude, but they are the deposit of all the wisdom and goodness of the ages, in reaction with the ignorance and the evil. He who would reorder them should first understand them.

In the last chapter of his last important book Mr. Herbert Spencer says :

There exist a few who . . . look forward through unceasing changes, . . . to the evolution of a Humanity adjusted to the requirements of its life. And along with this belief there arises, in an increasing number, the desire to further the development. . . . Hereafter the highest ambition of the beneficent will be to have a share . . . in the making of Man. Experience occasionally shows that there may arise extreme interest in pursuing entirely unselfish ends ; and, as time goes on, there will be more and more of those whose unselfish end will be the further evolution of Humanity.

Precisely because permanent enlargement of human welfare is not a matter of shreds and patches, but a gain which depends upon the development of a superior type of manhood, capable of superior coöperation, do we maintain that the programme most directly adapted to the furtherance of that end is suppression of the riot of imagination and substitution of the order of investigation.

VI. *Many capable scholars are beginning to recognize in these conditions a summons to unique forms of service.* Our thesis implies no depreciation of the scholarship of the past. Splendid specialism has been amassing more knowledge than we have learned to use. A federation of scholarship is forming by which the products of divided labor upon knowledge needed for social purposes shall be combined and applied as means of promoting welfare. That which has been unconscious and accidental hitherto will be meth-

odically undertaken hereafter. Analytic and microscopic scholarship is abortive without the complementary work of the synthetic scholar who builds minute details into comprehensive structures. The conditions of human association are so involved that it is no longer pardonable to increase present popular sensitiveness and irritation by theorizing about plans for accelerating the rate of human improvement, unless we have reduced all available pertinent facts about past and present human associations to generalized knowledge, which shall indicate both direction and means of improvement.

This new task of scholarship is coming into recognition in every part of the world where thought is unfettered. Scholars are everywhere speaking out their dissatisfaction with fragmentary knowledge of society, and their ambition to contribute to knowledge that shall be properly dynamic. Mr. Benjamin Kidd's recent account of the state of the social sciences in England is a fair index of the condition against which there is everywhere edifying revolt. We quote him at length because the case is not materially different elsewhere. Mr. Kidd says:

When I set out to write *Social Evolution*, I was impressed, as I am sure many an earnest student of our social phenomena has been impressed before me, with the extraordinary contrast which the sciences that deal with man in society present, when compared with the practical and experimental sciences upon which they rest. I need not speak of the strength and vigor of the latter, and of the new life that has come to many of them with the knowledge of the last fifty years. All this is only as it should be. It is the contrast which is so striking. I am bound to say that this impression with which I set out has deepened and grown down to the present hour. What seems to come home to the observer is the conviction, however much he may for the time try to avoid it, that outside a small group of workers, who however stand more or less aloof from the main body of professional thought, we have really in England at the present day no school of thought producing men fitted to deal with the science of human society as a whole. It would be impertinent in me to make such a remark if it implied any intention to speak disparagingly of the learning displayed, and of the zealous and painstaking work being per-

## THE ERA OF SOCIOLOGY.

formed, even under discouraging circumstances, in many of the departments of knowledge in question. My meaning is different. It is of the isolation of these departments of work from each other and from the sciences upon which they rest, that complaint has to be made. That unity of life now everywhere visible throughout the lower sciences, which causes them to run into each other at every point, and which renders strict lines of demarcation between them almost impossible, is nowhere to be found in the higher branches of knowledge. The workers in many of them still live in an earlier world of ideas which has long since passed away elsewhere. Unconscious of how the world has been moving, some of them seem even anxious to tell us that they know nothing of any other science, and that they desire to know nothing.

We have been hearing now for many years of a science of history, and many earnest and learned workers have borne a part in the uphill effort to raise history to that dignity which is its legitimate destiny. Nevertheless no spectacle can be more profoundly depressing to the worker who, trained in the accurate methods and the truth-seeking spirit of the lower sciences, and with the sense of the reign of universal law which these sciences give strong upon him, endeavors to take up the tangled threads of knowledge in this department of learning. In our universities and centers of learning he will find the exponents of the science still discussing whether it can ever have any laws, and even whether it should be founded on fact or romance. Let him take down any volume of history from its shelf, and endeavor to find any scientific clue therein to the natural laws underlying and controlling the majestic process of life which has unfolded itself in our western civilization, or to the natural laws that have directed the development of other social systems contemporaneous with it, or anterior to it. He will in all probability find none. If there is any attempt to discuss the matter at all, in the light of cause and effect, it will not be suggestive of the methods which science has followed elsewhere. Let him take up a representative organ of educated opinion, like *The Spectator*, and he will find an historical critic in a recent number regarding with a kind of dim wonder the connection between a few ignorant men, "who started forth to purify a world of which they knew nothing, by ideas which that world held to be contemptible," and the fact that they have nevertheless so transformed it that today the effect of their work and thought "is regulating the acts and the laws of the guides of all man-

kind." He will find the same critic equally impressed by "the spectacle of the half-naked ascetic sitting under his banyan, and giving out to brown men, ignorant as fishes, thoughts which today form the only antiseptic in the minds of a third of the human race;" and not less by that of "the epileptic camel driver, who wandered for months among the mountains of Arabia, to descend with thoughts which, bad or good, were so powerful that they bound the very tribes of the desert into an indissoluble brotherhood, and hurled them out, a nation of warriors, to tread down the highest existing organizations of the world." But he will find no explanation. It is all part of "the romance of history" the critic tells us. That is the formula of the writer, who, however, evidently is moved by the conviction that there must be some law underlying it all. But he has nothing better to send us to work with in this last decade of our scientific century.

Even if the impartial observer turns to that party to which his sympathies naturally go out,—the party which is opposed to the romance rendering of history, and which is at present devoting itself to the exhaustive study of periods,—he does not find, on the whole, anything much more satisfying. The efforts of this party seem to be directed towards founding a school of classifiers and abstractors. The limit of its aim seems to be to publish all available material that exists and to vouch for the authenticity of our sources of knowledge. Far be it from any one loyal to the spirit of science to say a single word in disparagement of work so useful and so necessary. But it would also be wrong to pretend to hope that we can ever construct a science of history merely in this frame of mind, or that the remnants of unpublished manuscripts, or the sweepings of sources of information still left unexploited—however precious—can so broaden the foundations of historical knowledge as to enable us thereupon to raise history to its proper dignity as a science.

It is not merely for the classifiers and abstractors that history is waiting now; it is for the workers who, trained in the methods of comparative science, will add to the present outfit of the historian the equipment necessary to enable him to regard history as the last complex but orderly phase in the evolution of life. It is only such a worker that can expect to utilize in the elucidation of our human and historical problems that vast store of knowledge which the sciences upon which history rests are now ready to contribute.

Nor is it easy to see how any fair-minded person, not committed



## THE ERA OF SOCIOLOGY.

to opinions on either side, can look round today at the social sciences generally and not have to admit that they are all in much the same state as history. It would be difficult to imagine any more remarkable situation than that presented in our day by the science of economics. We have had within the last thirty years a theory of social development founded on an economic conception put forward by a worker quite outside the ranks of the official exponents of this science. I refer to Marx's view of modern society, and the theory of surplus value on which it is based. It is a view so utterly out of proportion, so evidently only partially true, and so clearly demonstrative at every point of the author's ignorance of the method of action in human society, of existing evolutionary forces larger than any he has taken account of, that it can hardly have any prominent place reserved to it in a future science of society; yet, strange as it may appear, there is at the present time scarcely a professor of economics in any university within the limits of our western civilization who has not felt the effects, direct or indirect, upon his work, of Marx's generalization. It grows in influence, despite the refutations it is continually receiving from the economists. Nay more, I am much inclined to think that a recent socialist writer (Dr. Edward Aveling, *The Student's Marx*) has not greatly overrated Marx's true position in placing him alone alongside of Darwin in influencing the thought of the nineteenth century. And in what consists the secret influence of Marx's generalization, masterly despite its errors? Simply, it seems to me, in this: that he has succeeded in basing his theory of society on a clear and largely true statement of the historical and human form of a relationship which has projected itself throughout the history of life. His work has taken no account of the factors, special to human society, which control and regulate this relationship. Yet the effect of the imperfect view which Marx has obtained, of a natural law operating in human society in a larger sense than the economists have been trained to understand, has so far raised him above his critics that his theory remains, as a political and social force, almost unaffected by the criticism of those who endeavor to deal with it from within the narrow circle of the merely economic position. And it has been, perforce, to the economist alone that society has had to turn for instruction. In the present state of knowledge there has been absolutely no science of society in any larger sense than his, to which the world could look for help and guidance in the problems with which it is

.

THE AMERICAN JOURNAL OF SOCIOLOGY.

struggling in a kind of agony that gives a note to the entire literature of our period.

To turn from history and economics to professional philosophy is only to find the same lesson repeated. Outside the synthetic system of Mr. Herbert Spencer—that colossal edifice slowly and painfully (and surely to its own detriment) constructed by the author apart from and almost independent of the professional learning of the schools—the exponents of philosophy in England live in an old world of thought which has scarcely been affected by the influx of knowledge which the advancement of the lower sciences has brought. They are even, for the most part, unconscious of what is being done outside this world. There is no more striking sight in our time, when the perception of the unity and continuity of natural law throughout the entire realm of life has become the starting point of all real work, than to find men, authorities in their own departments of knowledge, endeavoring to discuss the problems of human existence and to formulate the ultimate principles of human nature without any real equipment for such a task, possessing scarcely any knowledge of those sciences which lead up to their subject, and almost without any perception of the immense and even revolutionary importance of the contributions which these sciences have made to that subject within the lifetime of the present generation. Even in the least fruitful period in the past this position would have been disastrous. For there is no lesson in the history of philosophy clearer and more emphatic than one which cannot be expressed in any better words than Professor Huxley's, viz., "The men who have made the most important positive additions to philosophy, such as Descartes, Spinoza, and Kant, not to mention more recent examples, have been deeply imbued with the spirit of physical science; and in some cases, such as those of Descartes and Kant, have been largely acquainted with its details. In truth, the laboratory is the fore-court of the temple of philosophy; and whoso has not offered sacrifices and undergone purification there, has little chance of admission into the sanctuary." And if this has been true in the past of those sciences upon which philosophy rests, how much more so in our own day, when these sciences have become the sources of knowledge that has transformed and reconstructed the very foundations of human thought!<sup>1</sup>

<sup>1</sup> *Nineteenth Century*, February 1895.

## THE ERA OF SOCIOLOGY.

VII. If we are not self-deceived, no scholars in the world are more sagacious than those in the United States about the subordination of all special knowledge to larger relations. Nowhere are the representatives of special sciences less restricted by the contents of their particular material. Nowhere are scholars more anxious to generalize their special knowledge by coördinating it with knowledge of other portions or phases of reality. This trait of American genius makes the differentiation of sociology as a distinct department of thought at once certain and difficult. In each of the social sciences there are American scholars who are successful and inspiring leaders both in special research and in constructive combination of their own with other results. These men have been elaborating the method of sociology, although they may still prefer to distinguish their work by another name.

Able conducted American journals devoted to special social sciences publish in almost every number important papers upon topics which lead discussion far beyond the limits of their particular science. Without invading the field of these journals *THE AMERICAN JOURNAL OF SOCIOLOGY* will be a medium for exchange of thought between scholars upon the work of developing an orderly view of associated human activities as a whole. In this *JOURNAL* a large number of American scholars, with many representative European sociologists will also try to express their best thoughts upon discoverable principles of societary relationship, in such a way that they might assist all intelligent men in taking the largest possible view of their rights and duties as citizens.

The *JOURNAL* will thus be primarily technical. It will be devoted to the organization of knowledge pertaining to the relations of men in society into a sociology that shall represent the best American scholarship. On the other hand the *JOURNAL* will attempt to translate sociology into the language of ordinary life, so that it will not appear to be merely a classification and explanation of fossil facts. As the contents of this number will show, it is not supposed essential to the scientific or even the tech-

nical character of thought that it shall be made up of abstractly formulated principles. On the contrary, the aim of science should be to show the meaning of familiar things, not to construct a kingdom for itself in which, if familiar things are admitted, they are obscured under an impenetrable disguise of artificial expression. If sociology is to be of any influence among practical men, it must be able to put its wisdom about things that interest ordinary men in a form which men of affairs will see to be true to life. That form will frequently be the one in which not theorists but men of affairs themselves view the facts concerned. These men are then the most authoritative sociologists. No subject which pertains to men's pursuits is beneath the notice of sociology, provided it can be treated so that its relation to involved pursuits becomes more evident.

While the sociological staff of The University of Chicago will be the responsible editors of the JOURNAL, the contributors will be men and women who are gathering the materials of social philosophy from the most diverse sources. The contents will vary from discussions of methodology to treatment of plans for social amelioration and to descriptions of minute social groups, or of specially significant social conditions, processes or functions. The JOURNAL will be the "organ" of the editors in no other sense than of any other responsible sociologists who may desire to present their thought in its pages. The platform of the JOURNAL will be simply that it is possible to so far increase our present intelligence about social utilities that there may be much more effective combination for the promotion of the general welfare than has thus far been organized; and accordingly help will be sought of anyone who can assist in defining the aims or in discovering the means of more rational associated effort.

In treating of specific proposals for social amelioration the aim will be to explain them in their relation not to immediate ends, but to the most remote results that can be anticipated. They will be estimated not by their value as palliatives, not with

## *THE ERA OF SOCIOLOGY.*

paramount reference to the satisfaction of the persons whom they would directly affect, but by the nature of the modification which they seem likely to impose upon the type or the tendencies of society.

To many possible readers the most important question about the conduct of the JOURNAL will be with reference to its attitude toward "Christian Sociology." The answer is, in a word, toward Christian sociology sincerely deferential, toward alleged "Christian sociologists" severely suspicious.

Upon the platform thus indicated the editors will attempt to make THE AMERICAN JOURNAL OF SOCIOLOGY a factor of restraint upon premature sociological opinion, a means of promoting the development of a just and adequate social philosophy, and an element of strength and support in every wise endeavor to insure the good of men.

# Ambivalent Cartesians: Durkheim, Montesquieu, and Method<sup>1</sup>

Robert Alun Jones  
*University of Illinois*

Recent scholarship has emphasized Durkheim's early debt to German social science. Why, then, did Durkheim write his Latin thesis on Montesquieu, insisting that the latter had "laid down the principles of the new science"? The answer is twofold: first because Montesquieu himself was extremely ambivalent about the French Enlightenment's confident legacy of Cartesian rationalism and second because this made Montesquieu's *The Spirit of the Laws* the "perfect forge" within which Durkheim could explore his own ambivalence about the relative merits of French rationalism and German empiricism, and thus shape the tool—the comparative method—he applied in *The Division of Labor in Society*.

## INTRODUCTION: THE LATIN THESIS AND ITS CONTEXT

As we celebrate the centenary of sociology's first classic—Durkheim's (1984) doctoral thesis, *The Division of Labor in Society* (*De la division du travail social*, 1893)—it is useful to recall that it was preceded by a less distinguished sibling: Durkheim's Latin thesis on Montesquieu's *De l'esprit des lois*.<sup>2</sup> I hasten to add that this alleged utility does not derive from this sibling's stature as a model of empirical sociological research. On the contrary, as Henri Peyre (1960, p. xiii) has pointed out, the purpose of the Latin thesis was less to exhibit original research or profound reflection than to display the candidate's "humanistic culture" and "rhetorical gifts." The utility rather lies in the fact that, in Durkheim's extremely selective pantheon of those who had anticipated or at least adumbrated the scientific study of social facts, Montesquieu occupied a position second only to Aristotle (see, e.g., Durkheim 1888, p. 45). It

<sup>1</sup> Correspondence may be addressed to Robert Alun Jones, Department of Sociology, University of Illinois, Urbana, Illinois 61801.

<sup>2</sup> The title of Durkheim's thesis is *Quid Secundatus Politicae Scientiae Instituendae Contulerit* (1892). It is also available in translation in French (see Durkheim 1937, 1953) and English (Durkheim 1960; it is this English-language version, drawn from the 1953 French translation, that I quote in this article).

was Montesquieu, Durkheim insisted on the very first page of his thesis, who had "laid down the principles of the new science."<sup>3</sup> The careful scrutiny of this "other" thesis, therefore, affords an insight into Durkheim's notion of what those principles were, even as they were applied to the problem of the evolution of industrial societies in its more famous sequel.

But the Latin thesis is of special interest for a second, more compelling reason as well. Several of us have recently emphasized the extent of Durkheim's debt to German social science, with its roots in post-Kantian romanticism, historicism, and empiricism (see, e.g., Lepenies 1988; Mestrovic 1988, 1991; Jones 1993). My own, quite specific goal has been to place these influences within the larger context of the development of scientific education in the 19th century. To briefly summarize that argument, after the French Revolution had swept away the scientific institutions of the ancien régime, Napoleon replaced the autonomous, self-governing universities with a centralized Parisian administration. This led to the migration of French scientific genius to Paris and a period of undeniable if ephemeral brilliance in the history of French science. But various factors, including advances in technology, the increasing complexity of scientific research, the need for more formal, specialized training, growing scientific professionalization, a more complex division of intellectual labor, the lack of disciplinary control over appointments to vacant chairs, and so on, made this centralized, elitist system unresponsive to the demands of 19th-century science.<sup>4</sup>

The German institutional context was quite different. At least until 1860, "Germany" itself was a cultural rather than a political expression, and its universities were thus inventions of the individual states, enjoying both a high degree of administrative autonomy and a long tradition of institutional rivalry. This competition encouraged the German universities to respond to the call for new courses, new chairs, new research facilities—in short, to the needs of the new science generally. Wilhelm von Humboldt's University of Berlin became the model for this transformation, redefining the role of the university as the advancement of sci-

<sup>3</sup> "Although it is always a mistake to trace the birth of a science to a particular thinker," Durkheim repeated, "it is Montesquieu who first laid down the fundamental principles of social science. Not that he stated them in explicit terms. He speculated very little about the conditions of the science he inaugurated. But these principles and conditions are inherent in his ideas, and it is not difficult to recognize and formulate them" (Durkheim 1960, p. 61).

<sup>4</sup> Compare Gilpin (1968, pp. 86, 107, 113–14) and Jones (1993). A revised, abridged translation of the latter appears in *Sociological Forum* (March 1994) under the title "The Positive Science of Ethics in France: German Influences on *The Division of Labor in Society*."

ence, replacing the self-taught academic virtuoso with the formally trained scientific specialist and elevating the creation of new knowledge over the transmission of the culture of the past. These institutional differences were reflected in the distinctive character of French and German science. The French remained committed to the Cartesian ideal of individual scientific genius, epitomized in the small, often ill-equipped *laboratoire de chaire* where the professor explored his own ideas with a few poorly trained assistants. German science, by contrast, was aggressively Baconian, as it focused on the systematic analysis of concrete scientific problems by means of a highly integrated division of scientific labor.

Eventually French intellectuals found themselves admiring German models of scientific education.<sup>5</sup> Louis Pasteur begged the government to establish research institutes, while Victor Duruy introduced a number of reforms, including the establishment of the École Pratique des Hautes Études and scholarships for promising *agrégés* to visit Germany and learn of the latest scholarly and scientific advances (cf. Zeldin 1977, p. 248). Studies of German higher education and social science appeared in the *Revue Internationale de l'Enseignement*, the *Revue Philosophique*, and the *Journal des Économistes*, including important examinations of German psychology by Théodule Ribot and less significant but noteworthy discussions of German social science by Alfred Espinas and Alfred Fouillée.<sup>6</sup> After 1880, the French government established laboratories for industrial research at Nancy, Grenoble, and the Conservatoire National des Arts et Métiers and simultaneously expanded the number of engineering schools and institutes, especially in chemistry, electricity, and other rapidly emerging science-based technologies.<sup>7</sup> But none of these

<sup>5</sup> The names Pasteur, Bernard, Curie, etc.—not to mention an *AJS* referee—remind me that France hardly lacked individual scientific genius. The point made by Gilpin is rather that France lacked the political and educational infrastructure to continue producing first-rate *science*—especially as the latter became more specialized, professionalized, and dependent upon a complex division of intellectual labor.

<sup>6</sup> Compare Ribot (1876, 1885), Espinas (1877), and Fouillée (1880). Other examples include Block's "Le 2<sup>m</sup>e Congrès d'Eisenach, tenu par les économistes autoritaires" (1874), "La Nouvelle école autoritaire ou les socialistes en chaire" (1876), "La Quintessence du socialisme de la chaire" (1877), and "Une Nouvelle définition de l'économie politique, à propos de l'ouvrage de M. Schaeffle" (1882); Dameth's "Les Nouvelles doctrines économiques désignées sous le titre de socialisme de la chaire" (1878); and Passy's "Le Socialisme de la chaire" (1879). Considering the period and extent of this French literature on German social science, it is essential to make a distinction in Durkheim's later reply to Simon Deploige: "tous ces travaux allemands dont parle M. Deploige," Durkheim said, "c'est moi qui les ai fait connaître en France; c'est moi qui ai montré comment, bien qu'ils ne fussent pas l'oeuvre de sociologues, ils pouvaient cependant servir au progrès de la sociologie" (1907, p. 607).

<sup>7</sup> According to Gilpin, in 1880 there were only 9 grandes écoles and 11 lesser engineering and technical schools, while 15 new schools were to be added during the next 20 years (1968, p. 91). As expressed by Raymond Poincaré, the hope was "to introduce



reforms, Robert Gilpin (1968) insists, altered the fundamental structure of French higher education generally or of scientific education in particular. The Franco-Prussian War simply exacerbated these anxieties about scientific education, as French intellectuals attributed Germany military success to a collective spirit born of the superiority of their educational system.<sup>8</sup>

Durkheim was well aware of these attempts at scientific and educational reform. In his review of Schäffle's *Bau und Leben des sozialen Körpers*, he emphasized how "highly instructive" these empirically detailed, statistically based inductions could be for an audience more accustomed to the "clear and distinct ideas" of Cartesian rationalism (Durkheim 1885c, p. 97). Reviewing Alfred Fouillée's *La Propriété sociale et la démocratie* the same year, Durkheim objected to Fouillée's misrepresentations of Schäffle's socialism and endorsed Fouillée's call for academic chairs for the teaching of social science in France—adding that, on the latter point, Germany "surpassed us long ago" (Durkheim 1885b, pp. 451, 449). Still again, praising Gumpłowicz's *Grundriss der Soziologie* as further evidence of "the most resolute efforts that are being made in Germany to extend sociological investigations in every direction," Durkheim added: "How regrettable it is that this interesting movement is so little known and so little pursued in France! So it is that sociology, French in origin, increasingly becomes a German science."<sup>9</sup> Finally, even as these early reviews appeared, Durkheim, supported by one of Duruy's scholarships for bright young *agrégés*, was visiting the universities of Berlin, Marburg, and Leipzig. Louis Liard, the devout republican, *Renouvierist*, and directeur de l'instruction supérieure, wished to reform the philosophy course for the *agrégation* at the École Normale Supérieure, and he had particularly urged Durkheim to study the condition of the social sciences in Germany, that they might provide the foundation for such a reform and, indirectly, for a more secular,

---

into France the autonomous university as it then existed in Germany, which would be a center for uniting teaching and research and for enabling science to contribute to French life" (quoted in Gilpin 1968, p. 93).

<sup>8</sup> "The victory of Germany," Ernest Renan insisted, "was the victory of science. After Jena, the University of Berlin was the center of the regeneration of Germany. If we wish to rise from our disasters, let us imitate the conduct of Prussia. French intelligence has been weakened; we must strengthen it. Our system of education, especially of higher education, has need of radical reform" (1872, p. 55). Steven Lukes has also observed that "it was for long widely held that the 'Prussian Schoolmaster' had triumphed at Sedan" (1973, p. 86). See also Digeon (1959).

<sup>9</sup> My translation (from Durkheim 1885a, p. 627): "Combien il est regrettable que cet intéressant mouvement soit si peu connu et si peu suivi chez nous! C'est ainsi que la sociologie, française d'origine, devint de plus en plus une science allemande."

scientific morality for the Third French Republic.<sup>10</sup> Upon his return, Durkheim published the two essays (Durkheim 1887*a*, 1887*b*) that constitute the clearest and most detailed evidence of this powerful influence of German social science upon his thought.<sup>11</sup>

In sum, Durkheim's sociology was deeply rooted, both institutionally and intellectually, in German sources. Why, then, would he make Montesquieu (the "greatest exponent of the Cartesian interpretation of history"; Thompson 1942, 2:61–62) the focus of his Latin thesis—itself a humanistic exercise whose very existence was a celebration of the Cartesian tradition in French thought? (See Peyre 1960, p. xiii.) If, as I have argued elsewhere (see Jones 1993; Jones and Kibbee 1993), Durkheim's goal was to replace the language of Cartesian rationalism and its emphasis on clear and distinct ideas deduced from first principles with this quite different language of German empiricism and its emphasis on induction carried out through the careful observation and collection of concrete facts, then why would he have been so preoccupied with the place of Montesquieu in the development of modern social science? What can we learn about Durkheim's relationship to French and German social science, and about his own philosophy of science, from the Latin thesis on Montesquieu? And finally, why should we care? Do the answers to these questions imply anything about the actual practice of sociological theory and research, and thus about their relationship to its history? Each of these questions is discussed below.

### MONTESQUIEU, DESCARTES, AND THE ENLIGHTENMENT

To answer these questions, one must first appreciate the extremely ambiguous position Montesquieu occupied within the context of the French Enlightenment, as well as the ambivalent nature of his commitment to Cartesian rationalism. I will argue that it was precisely this ambiguity and ambivalence that made Montesquieu the perfect subject for the Latin thesis, and in turn made the thesis an ideal vehicle for Durkheim's own attempt to come to terms with his problematic Cartesian legacy.

To understand Montesquieu's thought, Isaiah Berlin has argued, we must first have some grasp of the way French rationalists viewed the world at the time Montesquieu wrote *The Spirit of the Laws* (1748). As

<sup>10</sup> Upon Durkheim's return, it was again Liard who exerted his considerable influence to create a special position for Durkheim—*chargé de cours* of social science and pedagogy at the Faculty of Letters in Bordeaux—the guise under which sociology officially entered the French university system (Lukes 1973, p. 95).

<sup>11</sup> I have examined these essays in detail elsewhere (see Jones 1993).

a consequence of the scientific, philosophical, and mathematical innovations that took place between the publication of Copernicus's *De Revolutionibus Orbium Coelestium* (1543) and Newton's *Philosophiae Naturalis Principia Mathematica* (1687), the world of *nature* was conceived as one governed by clear-cut laws and principles: the movement of each particle in space appeared explicable through logical, deductive inference. By sharp contrast, Berlin emphasizes, the world of culture and society seemed "uncharted and unchartable. The human science presented itself as a field for the play of blind chance and irrational forces, good and bad fortune, the whims of despots, adventurers, and popular passions, which left the way open to metaphysical and theological explanations unsupported by anything worthy of the name of evidence, conducted by methods the opposite of rational, the happy hunting-ground of bigots and charlatans and their dupes and slaves" (Berlin 1980, p. 133).

This view of two distinct realms—one governed by regular laws and the other left to chaos and caprice—was widely shared by rationalists and anticlerics of the 17th century. Descartes himself simply dismissed history and the "human sciences" generally as being of no interest to genuine seekers after truth, for these areas were incapable of yielding either precise definitions or the clear rules of evidence from which irrefutable conclusions could be drawn by logical deduction. "Proud and magnificent palaces built only on sand and mud," Descartes (1985, pp. 113–15) characterized moral philosophy, and "in so far as they borrow their principles from philosophy," he added of other sciences, "I decided that nothing solid could have been built upon such shaky foundations."<sup>12</sup>

It is in this context that we should understand Montesquieu's claim and conviction that he had made a "stupendous discovery"—that is, that "for the first time in human history, he had uncovered the fundamental laws which govern the behaviour of human societies, much as natural scientists in the previous century had discovered the laws of the behaviour of inanimate matter" (Berlin 1980, p. 134). "Those who assert that a blind fatality produced the various effects we behold in this world talk very absurdly," Montesquieu (1949, p. 1) asserted, "for can anything be more unreasonable than to pretend that a blind fatality could be productive of intelligent beings?" Social things, like natural things,

<sup>12</sup> See also Berlin (1980, pp. 133–34). The notable exception here, of course, was Giambattista Vico, who, as Berlin notes, "claimed that he had found a thread in this seeming labyrinth, and could organise the scattered data by means of the new principles which he had brought to light." But Vico "was an obscure, poverty-ridden Neapolitan recluse, and no one in France read him, or paid the slightest attention to him at this time. The story that Montesquieu had read the *Scienza nuova* seems to be pure legend" (1980, p. 134).

were seen to be subject neither to chance nor to fate. Human behavior was intelligible, and once its laws were understood a science of man was possible. This, in turn, would create the foundation for the rational science of government, one that would fit means to ends in accordance with principles derived from experience and observation.

Much of this, of course, was consistent with Enlightenment optimism and its underlying faith in science and education, political reform and social progress. But throughout Montesquieu's work, there was also a more skeptical mood. Some of his opinions on specific social and political questions irritated the Encyclopedists, who became concerned about Montesquieu's reservations regarding the perfectibility of man and society and were thus suspicious of his commitment to their ideals. Montesquieu's 18th- and 19th-century critics ascribed this reticence to his timidity and also to his "natural conservatism"; but a more likely explanation is his deeply felt attraction for the writings of Michel de Montaigne, a fellow Gascon and aristocrat whose intellectual traits—an urbane skepticism, a facility for unmasking illusions, subjective empiricism, a repugnance for religious fanaticism, and a feeling for the diversity of customs and the richness of natural forms—he also shared.<sup>13</sup>

Berlin insists that this skepticism penetrates to the very core of Montesquieu's thought and explains its internal contradictions, while simultaneously raising the stature of *The Spirit of the Laws* far above the more optimistic works and radical proposals of his Enlightenment contemporaries. "By temperament," he observes, "Montesquieu is an empiricist who seeks to explain everything by naturalistic means wherever and whenever he can" (Berlin 1980, p. 137). This is not to say that he entirely avoided metaphysical concepts; on the contrary, *The Spirit of the Laws*—as its famous opening lines testify—reeks of the language of natural law.<sup>14</sup> But what Montesquieu principally stressed, Berlin (1980, p. 137) insists, was the fruit of observation: "He observed curiously, minutely and insatiably, all his life. His accounts of his travels, his historical sketches, his scattered notes on a wide variety of topics, are detailed, vivid and penetrating. He was fascinated by what he saw and what he learnt, for its own sake, whether or not it offered evidence for a hypothe-

<sup>13</sup> See Hulliung (1976, pp. 113–14). Similarly, Neumann (1949, pp. xviii–xix, xxxiii) argues that the "deepest influence" on Montesquieu was Montaigne, that he always read Descartes "through the skepticism of Montaigne," and that this has been "inadequately stressed" by other scholars and commentators.

<sup>14</sup> "Laws, in their most general signification, are the necessary relations arising from the nature of things. In this sense all beings have their laws: the Deity his laws, the material world its laws, the intelligences superior to man their laws, the beasts their laws, man his laws" (Montesquieu 1949, p. 1).

sis or pointed a moral that he wished to emphasise."<sup>15</sup> This in turn explains certain features of Montesquieu's works. His descriptions of characters and events are neither the caricatures nor the consciously idealized exaggerations typical of 18th-century literature. The Persians Usbek and Rica, for example, are characterized not as superior or inferior to the Parisians, but rather as utterly dissimilar, representing the sheer, irreducible *variety* of practice, habit, and custom, so that what is obvious and "normal" in one culture appears ludicrous and perverse in the other (see Montesquieu 1973). Similarly, despite its posture as a systematic, logically constructed political treatise, *The Spirit of the Laws* literally abounds in sudden digressions and episodic asides, ostensibly called forth as evidence in support of more general laws and hypotheses, but which rather reflect Montesquieu's fascination for the particular, the detailed, and the concrete. The resulting chaos has been acknowledged by many scholars ("initial bewilderment," Franz Neumann [1949, p. xxxi] once observed, "is the inevitable fate of every reader of *The Spirit of the Laws*"), and this in turn has led to concerted, and occasionally ingenious, efforts to restore some semblance of order (see, e.g., the attempts of Barckhausen [(1904) 1970, pp. 10–11; 1907, pp. 264–65], Levin [1936, p. 4], Sabine [1937, p. 556], and Lanson [1932, pp. 5–7]). Recognizing that it "would be ungenerous to disparage the devoted labours of so many scholars and commentators," Berlin wonders if this is not "all so much misdirected ingenuity," for "Montesquieu is not a systematic philosopher, not a deductive thinker, not a historian, not a scientist, and one of his great merits lies in the fact that although he claims to be founding a new science in the spirit of Descartes, his practice is better than his professions, and he is, in fact, doing nothing of the kind, because he realises that the material will not allow it" (Berlin 1980, pp. 137–38).<sup>16</sup> In short, if Montesquieu's "stupendous discovery" included the notion that social facts could be studied scientifically, it equally included his recognition that the attempt to impose upon these facts some preestablished, metaphysical conception was "an excessively artificial proceeding, repugnant to the nature of this particular topic," one which would "turn out, as later sociology has all too often proved to be, exceedingly sterile in results" (Berlin 1980, p. 138).

<sup>15</sup> See Richter's observation that Montesquieu's actual practices were "inconsistent with the older notion that there exists an external, natural law superior to positive law. Yet Montesquieu refused to abandon the theory of natural law, despite its patent incompatibility with his own" (1968, p. 468).

<sup>16</sup> Berlin cites a passage from Montesquieu's *Pensées*: "On ne s'est guère jamais trompé plus grossièrement que lorsqu'on a voulu réduire en système les sentiments des hommes, et, sans contredit, la plus mauvaise copie de l'homme est celle qui se trouve dans les livres, qui sont un amas de propositions générales, presque toujours fausses" (quoted in Berlin 1980, p. 138).

But if the concrete particularities of human experience were thus resistant, by their very nature, to the abstract, metaphysical concepts of French rationalism, what was Montesquieu's method? "For all that Montesquieu *speaks* of Cartesian methods," Berlin assures us, "he does *not*, fortunately for himself and posterity, apply them" (Berlin 1980, p. 138; emphasis added). Instead, he advances "tentative principles and hypotheses," defends them by "adducing the never wholly conclusive evidence of observation," and uses them "in the manner which the subject-matter seems to call for" (Berlin 1980, p. 138). Montesquieu's famous attack on Hobbes's state of nature and the social contract, his conception of societies as analogous to biological organisms, his notion of different social and psychological "types"—all were "bold and fruitful notions," Berlin admits, but ones that "rested on *aperçus* and unsystematic observations dominated by moral purpose, not on careful and exhaustive, morally neutral researches like those made by his contemporaries Buffon and Linnaeus" (Berlin 1980, p. 140).

The heart and soul of these *aperçus* and observations (as Durkheim recognized so well) was Montesquieu's classification of societal "types"—that is, despotism, monarchy, and republic (the latter subdivided into democracies and aristocracies; see Montesquieu 1949, pp. 8–18). The classification was an attempt to improve upon Aristotle, and it owes an equal debt to the ancient, metaphysical doctrine of natural kinds (see Aristotle 1962). Each of these societal types thus possesses its own distinctive "principle" or "inner force" (i.e., the principle of despotism is *fear*, that of monarchy, *honor*, of democracy, *virtue*, and of aristocracy, *moderation*) which enables it to function as it does (see Montesquieu 1949, pp. 19–28). Each principle quite naturally reflects the physical circumstances and material conditions (e.g., climate, topography, population size and density, etc.) of the society in question. But Berlin emphasizes the extent to which Montesquieu's model here is biological rather than chemical; it depends upon final rather than mechanical causes and was thus precisely the model that had been *abandoned* by the "new science" of Galileo and Newton (Berlin 1980, p. 141). Montesquieu's rejection of the new model is important because Durkheim recognized it instantly, and it became the basis of his most important objection to *The Spirit of the Laws*, one reflected in both the Latin thesis and *The Division of Work in Society* (see below and see Durkheim 1960, pp. 41–42 [1953, pp. 83–84]; see also n.29 below). The laws appropriate to a particular society, Montesquieu insisted, should always relate to the principle of its distinctive type: "The relation of laws to this principle," Montesquieu explained, "strengthens the several springs of government; and this principle derives thence, in its turn, a new degree of vigor" (Montesquieu 1949, p. 40). Inversely, when laws ignore or contradict a society's "inner

principle," the society becomes liable to decay and disaster (pp. 109–25).<sup>17</sup>

The simile of intelligent legislation, as with Aristotle and also with Durkheim, is thus *medical*: "The business of legislators and administrators, judges, and of everyone concerned with social issues in any form, is to preserve, maintain, improve the health of society" (Berlin 1980, p. 141). But Montesquieu is unusual among his Enlightenment contemporaries, Berlin emphasizes, in his insistence that what constitutes this societal "health" will vary from one society to another, according to its particular environment and the distinctive inner "principle" that guides its response to these conditions. While the Encyclopedists and *philosophes* struggled to find some objective criterion or abstract, universal standard in the light of which a "good" society or institution might be known, Berlin points out that Montesquieu—like a good physician—was content to observe carefully, to recognize things for what they are, and to make recommendations accordingly:

A physician does not, after all, usually ask himself what precisely it is that good health consists in, and why; he takes it for granted, and calls himself a physician because he knows a healthy and normal organism from one which is sick or abnormal, and knows, moreover, that what is good for one type of organism may be fatal to another, and that what is needed in one climate is unnecessary or dangerous in another. Similarly Montesquieu assumed that the idea of political and moral health is too familiar to need analysis, that when it is present this is quite patent, and that to be rational is to recognise it for what it is, to know the symptoms, to know how to cure the relevant diseases and how to maintain the organism. [Berlin 1980, pp. 142–43]<sup>18</sup>

This taste for what was real and concrete rather than ideal and abstract left Montesquieu open to charges of moral relativism and indifference to ultimate values, from both radicals and reactionaries. "There are many local laws in various religions," an example of Montesquieu's offense against the latter began, "and when Montezuma with so much obstinacy insisted that the religion of the Spaniards was good for their country, and his for Mexico, he did not assert an absurdity; because, in fact, legislators could never help having a regard to what nature had estab-

<sup>17</sup> Montesquieu examined at length a specific example of such decay in the fall of the Roman Republic ([1734] 1965). Republics can remain healthy, Montesquieu argued, only if they remain relatively small. What ruined Rome was thus imperialist expansion and the resulting displacement of republican virtue by personal despotism. See Berlin (1980, p. 143).

<sup>18</sup> Durkheim would have accepted this as a tolerable description of the role of the sociologist.

lished before them" (Montesquieu 1949, vol. 2, bk. 24, p. 42).<sup>19</sup> *The Spirit of the Laws* offended the Encyclopedists and *philosophes* as well, not simply through its skeptical, Montaignian mood, but also because of its opposition to any universal criterion of rationality, which subverted any effort to show that all religions were tissues of falsehood.<sup>20</sup> Voltaire and Helvétius were no less frustrated by Montesquieu's sense—deeply felt by Durkheim—of the sheer complexity of concrete social phenomena, which led him to resist simple, radical solutions for fear of their unpredictable consequences (Berlin 1980, pp. 146–47).<sup>21</sup>

Finally, while no figure in the 18th century did more to draw attention to the influence of material factors on society and culture,<sup>22</sup> Montesquieu never embraced an aggressively determinist position. In a manner more reminiscent of Max Weber, Montesquieu suggested that the laws that govern human behavior are somehow less binding than those that govern physical matter, that some material causes simply render certain social consequences "more probable" (not inevitable), and that these causes can, to a significant degree, be counteracted by deliberate human action.<sup>23</sup>

<sup>19</sup> After the publication of the *Persian Letters* ([1721] 1973)—in which values commonly accepted in Paris or Rome are made to seem as absurd as Persian customs did to the French or Italians—Cardinal De Fleury prevented Montesquieu's election to the Académie Française under the pretext that he was a resident of Bordeaux; almost immediately upon the appearance of *The Spirit of the Laws* the Sorbonne and the assembly of bishops attempted to have the work banned (Neumann 1949, pp. xi, xiii). Berlin adds that Montesquieu was denounced fiercely by the Jansenists, and his books were put on the Index, the Roman Catholic Church's list of forbidden publications (1980, p. 147).

<sup>20</sup> Recall that Durkheim, in *The Elementary Forms of the Religious Life*, attacked the attempts of rationalists to use the scientific study of religious institutions as an instrument against religion itself (1915, pp. 13–15).

<sup>21</sup> "In fact the whole system of values upon which the Enlightenment rested began to crumble, if the very possibility of a single universal method for obtaining true answers to moral and metaphysical questions, true for all men, at all times, everywhere, *quod ubique, quod semper, quod ab omnibus*, was doubted or denied. Indeed, the very tone of Montesquieu, the whole tenor of his work was somehow felt to be subversive of the principles of the new age" (Berlin 1980, p. 148).

<sup>22</sup> Berlin adds that Montesquieu identified "strategic points" in the network of social relations—e.g., the connection of free trade with military security, the influence of modern communications systems on despotic governments, the effect of new weapons on international relations, etc. See Berlin (1980, p. 149).

<sup>23</sup> This, Berlin insists, is to Montesquieu's "eternal credit," for it demonstrates again his decision to be guided by concrete facts rather than abstract principles, to observe and describe social and historical patterns and regularities while not "betraying" them to some rational, artificially imposed system of ideas (Berlin 1980, p. 151). Montesquieu thus objected to the claims of rationalists like Spinoza that "a man can be a great scoundrel and yet have committed no crime, because he is caused to act abominably by circumstances over which he has no control" (see Berlin 1980, pp. 149–50).



And the goal of such action is not some utopian state, but rather the preservation of an unstable equilibrium in which each law or force is checked by another, producing an "elaborate mosaic" of countervailing powers. This, of course, became Montesquieu's most famous and influential idea—the notion of a constitutional "separation of powers"—which was inspired by his travels in England (1729–31) despite the fact that such a separation existed there no more than it did in France (see Neumann 1949, pp. li–lix).<sup>24</sup>

This brings us to the subject of liberty, which the separation of powers was designed to protect. "It is true that in democracies the people seem to act as they please," Montesquieu acknowledged, "but political liberty does not consist in an unlimited freedom. In governments, that is, in societies directed by laws, liberty can consist only in the power of doing what we ought to will, and in not being constrained to do what we ought not to will." Liberty, in short, is "a right of doing whatever the laws permit" (Montesquieu 1949, p. 150).<sup>25</sup> But if liberty is thus the freedom to act unless such an act is prohibited by law, Franz Neumann is quite right to suggest that "the character of the restraining laws must necessarily move into the center of [Montesquieu's] theory" (1949, p. 50). What underlies these laws and renders them legitimate, especially insofar as they are taken as setting the parameters of human liberty? What are we to make of the possibility of an unjust law that, by this conception, we have no right to violate?

Montesquieu's answers to these and other questions about liberty and justice indicate how deeply he was still indebted to the ancient and medieval tradition of natural law. "Before laws were made," Montesquieu insisted, "there were relations of possible justice. To say there is nothing just or unjust but what is commanded or forbidden by positive law, is the same as saying that before the describing of a circle all the radii were not equal" (Montesquieu 1949, p. 2). In a completely rational society, therefore, unjust laws would not exist, for all laws would conform to natural law. But "the intelligent world," Montesquieu added, "is far from being so well governed as the physical." No human society is capable of fully realizing this natural standard of absolute justice.

Montesquieu's discussions of the various types of government are thus attempts to find various approximations of natural law, with particular attention to those conditions—climatic, topographic, demographic, social and psychological—that render these approximations incomplete and un-

<sup>24</sup> Here, Neumann suggests, Montesquieu's rationalism got the better of his empiricism (see Neumann 1949, pp. liv–lv).

<sup>25</sup> If a citizen could do what the laws forbid, Montesquieu continues, "he would be no longer possessed of liberty, because all his fellow-citizens would have the same power" (1949, p. 150).

satisfactory. For Montesquieu, civil society itself thus became an agent of history, and the proper focus of sociological study (Neumann 1949, pp. xxxix–xl). The tension—if not downright contradiction—between these two themes in *The Spirit of the Laws* has been a focus of Montesquieu's critics at least since Hume's *Enquiry Concerning the Principles of Morals* (1751).<sup>26</sup> On the one hand, Montesquieu invoked the rationalist doctrine that positive law must always be measured against the standard of some transcendent set of metaphysical principles. On the other, with stunning originality, he introduced the more empiricist doctrine that laws are the evolving expression of the largely unconscious moral habits, beliefs, and attitudes of particular societies at particular times and places, these unconscious factors themselves reflecting the specific material conditions in which they emerged. The first represented the Roman and Napoleonic tradition of codified law, committed to the application of general principles whose validity was regarded as timeless and universal. The second reflected a more conservative, pragmatic tradition, epitomized in the writings of Burke and the German jurists,<sup>27</sup> for whom law was the organic expression of the deepest traditions of a nation, culture, or community, and was not to be deflected by arbitrary and artificial reforms (see Berlin 1980, p. 156).<sup>28</sup>

The same ambivalence can be seen in Montesquieu's use of important words like *reason* and *nature*. In his more rationalist moods, for example,

<sup>26</sup> "The laws have, or ought to have," Hume observed, "a constant reference to the constitution of government, the manners, the climate, the religion, the commerce, the situation of each society. A late author of genius, as well as learning, has prosecuted this subject at large, and has established, from these principles, a system of political knowledge, which abounds in ingenious and brilliant thoughts, and is not wanting in solidity." But the very same writer, Hume added in a footnote, "sets out with a different theory, and supposes all right to be founded on certain *rappports* or relations; which is a system, that, in my opinion, never will be reconciled with true philosophy" (1975, pp. 196–97, 197n.1).

<sup>27</sup> The leading figure here was Friedrich Karl von Savigny (1779–1861), who molded the ideas of Montesquieu, Edmund Burke, and Justus Möser into the foundations of the romantic, historical school of law in the early 19th century. See his *Geschichte des römischen Rechts in Mittelalter* (7 vols., 1815–34) and *System des heutigen römischen Rechts* (8 vols., 1840–49). Durkheim's interest in this school is reflected in his discussion of Savigny's descendants Rudolf von Ihering (1818–92) and Albert-Hermann Post (1839–95), whose works he reviewed in "La Science positive de la morale en Allemagne" (see Durkheim 1887b). Steven Lukes has already noted the "strikingly Burkean" tone of this essay, written shortly after Durkheim's return from Germany (Lukes 1973, pp. 77–78, 78n.59).

<sup>28</sup> Berlin suggests that there was also a more radical extension of this pragmatic tradition and that it is reflected in the demand that the law should constantly respond to changing social needs. Durkheim's interest in Montesquieu—mediated by his reading of German jurisprudence—was clearly related to the more conservative element within this pragmatic tradition of legal theory (see Durkheim 1887b, esp. pp. 49–58).

Montesquieu uses "reason" in the manner of Descartes, that is, to refer to the intuitive perception of general laws; but in other, more empiricist moods, it seems to refer to a more pragmatic grasp of what a particular society needs in order to adapt to specific conditions and circumstances. Similarly, in the Cartesian context, "nature" takes revenge on those who legislate in ignorance of or indifference to natural law; but in other contexts, nature is simply the way things are, the material causes of particular institutions adapted to them, and thus the proper subject of sociological investigation. In all of Montesquieu's writings, Berlin thus emphasizes, there is "a kind of continuous dialectic . . . between absolute values which seem to correspond to the permanent interests of men as such, and those which depend upon time and place in a concrete situation" (Berlin 1980, p. 157).

#### THE CONDITIONS OF SOCIAL SCIENCE

Montesquieu's ambivalence over absolute and relative values was no less obvious to Durkheim than it had been to Hume. On the contrary, it made *The Spirit of the Laws* the perfect forge in which Durkheim would shape the tools to be applied in *The Division of Labor in Society*. For Durkheim, like Montesquieu, was troubled by the legacy of Cartesian metaphysics and, no less than Montesquieu, sought to temper its emphasis on "clear and distinct ideas" with a language more responsive to the concrete complexity of *things* (see Jones 1993; Jones and Kibbee 1993; and the conclusion below). In his writings between 1885 and 1890, Durkheim repeatedly warned that sociology, whose origins were French, was becoming more and more a "German science"; to counteract this trend, he urged French sociologists to follow the example of Wundt's Psychologisches Institut in Leipzig, where Durkheim himself had observed careful, laborious experiments involving concrete psychological phenomena in all their detail and complexity (see Jones 1993).

The Latin thesis is thus an extended exploration of the relative merits of rationalism and empiricism and, indirectly, of the relative contributions of their French and German progenitors. Alluding to "the prestige of recent works" on sociology by "eminent English and German philosophers,"<sup>29</sup> for example, Durkheim denied that social science is "foreign

<sup>29</sup> The reference here is to Albert Schäffle's *Bau und Leben des sozialen Körpers* (1875), whose first volume Durkheim had already reviewed quite favorably (see 1885c); Ferdinand Tönnies's *Gemeinschaft und Gesellschaft* (1887), which Durkheim had also reviewed earlier (see 1889); Walter Bagehot's *Physics and Politics* (1872); the French translation (1878–79) of the first volume of Herbert Spencer's *Principles of Sociology* (1876), as well as Spencer's *Descriptive Sociology* (1873–81). Unfortunately, the references in the second French translation (1953) of the Latin thesis were not preserved in the English translation (1960); therefore, I have provided page references to both editions below; but the observation affords another opportunity to repeat Steven

to our ways and to the French mind." On the contrary, the foundations of sociology were laid by Comte; the "very impetus" of the Third Republic's concern with social problems "came from our eighteenth-century philosophers"; and amid that "brilliant group of writers," Durkheim observed, "Montesquieu occupies a place apart," for no one before him "had perceived so clearly the conditions necessary for the establishment of this discipline" (Durkheim 1960, pp. 1, 2 [1953, pp. 26, 28]).

What are these prerequisites? What is necessary for a discipline to call itself a science? For Durkheim, there were at least two necessary conditions, both echoing the arguments of his teacher, Emile Boutroux: "A discipline may be called a science," Durkheim argued, "only if it has a definite field to explore. . . . If it does not have definite material to describe and interpret, it exists in a vacuum." Second, this field must be comprised, not simply of ideas, nor even of our ideas of things, but of things (*choses*) and realities (*réalités*) themselves. Taken together, these two conditions seem to have been not only necessary but also sufficient: "Aside from the description and interpretation of reality," Durkheim thus added, social science "can have no real function" (Durkheim 1960, p. 3 [1953, p. 29]).<sup>30</sup>

Social science is thus the scientific study of social things (*choses sociales*)—laws, customs, religions, suicide rates, the division of labor, and so on—which, like the other things in nature, have their own peculiar characteristics. But until quite recently, Durkheim insisted, no philosopher had viewed the things studied by social science in this way. Durkheim acknowledged that Aristotle—whose *Ethics* and *Politics* he had taught at the University of Bordeaux—was more an "empiricist" than was Plato; but Aristotle's real concern was less with the discovery of the laws of social life than with the determination of the best form of society. Aristotle's *Ethics* thus begins with the argument that happiness is the purpose of life, and that the goal of society should be to provide the context through which this end might reasonably be achieved—that is, through the practice of the virtues. But this, Durkheim observed, is not a goal that societies actually pursue; rather, it is the way societies should

---

Lukes's call—now more than 20 years old—for a standard English edition of Durkheim's works (1973, p. 591).

<sup>30</sup> "I owe [the distinction between sociology and psychology] first to my master, Boutroux, who, at the École Normale Supérieure, repeated frequently to us that each science must, as Aristotle says, explain [its own phenomena] by 'its own principles'—e.g., psychology by psychological principles, biology by biological principles. Most impressed by this idea, I applied it to sociology. I was confirmed in this method by the reading of Comte, since for him, sociology is irreducible to biology (and consequently to psychology), just as biology is irreducible to the physico-chemical sciences" (Durkheim 1907, pp. 612–13). See Boutroux ([1874] 1916).

be organized if they are to assist their members in the realization of their specific *telos*; and while Aristotle did eventually turn to historical facts, he did so only to show how his original principles might be adapted to various situations.

From Aristotle to Montesquieu, philosophers continued to make the same fundamental error:

They thought that all such phenomena depended upon the human will and hence failed to realize that they are actual things, like all other things in nature, which have their particular characteristics and consequently call for sciences that can describe and explain them. It seemed to them sufficient to ascertain what the will should strive for and what it should avoid in constituted societies. Accordingly, they sought to know, not the nature and origin of social phenomena, not what they actually are, but what they ought to be; their aim was not to offer us as true an image of nature as possible, but to confront our imagination with the idea of a perfect society, a model to be imitated. [Durkheim 1960, pp. 3–4 (1953, pp. 29–30)]

While Durkheim thus disparaged Montesquieu's predecessors for practicing "not a science but an art," he was clearly *not* suggesting that their formulations were in any sense irrational. On the contrary, their preferences for one form of the state over another were typically conjoined with rational demonstrations and even "proofs"—for example, that a particular preference was more "consonant with human nature" than its counterparts—a style of argument Durkheim characterized as a kind of "science within art."<sup>31</sup> But in what amounts to a sweeping indictment of one of the favorite arguments of Enlightenment social and political thought, Durkheim insisted that the deduction of such preferences from the abstract principles of human nature is *psychology* rather than social science—indeed, that such arguments rarely contain anything that is "social" at all. In any case, "true" science asserts its complete independence from art, divorces itself from immediate questions of utility, and applies itself to the description and classification of concrete *things*.<sup>32</sup>

<sup>31</sup> The argument presented here—i.e., that at least until the 18th century, society was viewed as a work of art rather than of nature—is developed at length by Boutroux ([1892] 1914). Unlike Durkheim, however, Boutroux sees Montesquieu as a more typical representative of Enlightenment rationalism, with a Cartesian, mathematical conception of society (Boutroux 1914, pp. 188–94, esp. pp. 190–91).

<sup>32</sup> This is not to say that social science lacks utility. On the contrary, the sharper the observed distinction between science and art, Durkheim argued, the more useful science can be to art. Durkheim's invaluable tool for the privilege of his own preferences thus became the classification of societies into types, and especially the distinction between those that are normal and those that are pathological: "Social science," he insisted, "which classifies the various human societies, cannot fail to describe the normal form of social life in each type of society, for the simple reason that it describes the type itself; whatever pertains to the type is normal, and whatever is normal is healthy" (1960, p. 8 [1953, p. 35]).

Rationalists habitually began with axiomatic principles from which formal propositions were then deduced; therefore, Durkheim insisted that social science begin with the description of the things with which it deals. But what does it mean to “describe” something? To Durkheim, it clearly meant to characterize or define the things under investigation according to the features held in common with other things. Description, in short, presupposes classification.<sup>33</sup> Only if the infinite variety of nature can be foreshortened and reduced to specific types, therefore, can social science proceed.

Is this a wholly inductive procedure, “socially constructed” by social scientists themselves? Or are these types somehow “given” by nature itself and only later apprehended by the human mind? To demand from Durkheim an answer to these questions is to impose upon his thought an artificial and potentially misleading consistency.<sup>34</sup> But at least one generalization seems justified. When Durkheim spoke of the way in which human subjects (particularly primitive subjects) “organize” their social world, he was almost determinedly constructivist, speaking an empiricist language that eventually resulted in his seminal contributions to the sociology of knowledge and science (see Durkheim and Muass 1903; Durkheim 1912). When Durkheim spoke of the way in which social scientists (as social scientists) understand and explain the social world, however, he spoke a more *rationalist* language of the order inherent in nature itself, which it is the job of social science to discover and comprehend.

This was certainly the case when, in the Latin thesis, Durkheim turned to the problem of *interpretation* (i.e., the arranging of our ideas in a determinate order), the next step (after description) in his social scientific method. For this “determinate order,” Durkheim argued, “must be the same as that of the things themselves,” a requirement that presupposes an order “present in the things themselves,” and that “they form continuous series, the elements of which are so related that a given effect is always produced by the same cause and never by any other” (Durkheim 1960, p. 10 [1953, p. 37]). In short, this requirement presupposes that social things are governed by laws, to the extent that without their being satisfied, no social science is possible. Among Durkheim’s conditions,

<sup>33</sup> Here, again, Durkheim’s debt to Aristotle’s *Politics*—its classification of the *types* of the state—is clear. Durkheim acknowledged the debt, but added that Aristotle classified societies only according to their forms of government, ignoring religion, the family, economic life, and so on. Here, again, Aristotle established a tradition that persisted down to Montesquieu (Durkheim 1960, p. 9 [1953, pp. 36–37]).

<sup>34</sup> See Skinner’s (1969, pp. 16–22) discussion of the “mythology of coherence” perpetrated by such efforts to rescue an artificial consistency from complex—and frequently contradictory—ideas.

therefore, laws are as essential to interpretation as classification is to description. Fortunately, Durkheim never tired of insisting that human societies are a part of nature, and since laws govern all other parts of nature, it seemed clear to him—as to Montesquieu—that they govern human societies as well.

This insistence that social phenomena are governed by laws inevitably raised a question that had been the preoccupation of Boutroux's *The Contingency of the Laws of Nature* ([1874] 1916)—indeed, of the post-Kantian “neocritical” school altogether. If social phenomena are bound by laws of cause and effect, he asked, what becomes of free will? The view that the idea of law is thus in conflict with that of free will, Durkheim argued, has been one of the major obstacles to the emergence of social science. The view that *conscious* motives underlie our actions, that the *individual wills* and *personalities* of “kings, lawgivers, and prophets” drive history forward, that the most visible causes of social phenomena provide their appropriate explanation—this view, Durkheim argued, contradicts the very idea of a social science. First, the idea of natural societal “types”—that is, of classes of things inherent within societies (themselves a part of nature)—presupposes the idea of causes that, “though operating in different places and at different times, always and everywhere produce the same effects” (Durkheim 1960, p. 12 [1953, p. 40]). Second, so long as it is assumed that “kings, lawgivers, and prophets” can direct social life according to their individual wills, then social science has no object, for the subject matter of social science can consist only of things that have a stable nature of their own and are capable of resisting human will.

But if this subject matter which is “scientifically knowable” is a necessary condition for social science, Durkheim added, it is hardly sufficient to that purpose. In addition, Durkheim argued, we need a method that is both appropriate to the things studied and consistent with the more general conditions of science. Here Durkheim seems to have had the psychological experiments he had observed in Wundt's laboratory—“specialized,” “restricted,” “precise,” and “complex,” (see Durkheim 1887, p. 433)—as his model. But if Durkheim thus considered controlled experimentation the virtual model of the scientific method, he also shared Comte's conclusion that experiments were impossible in the study of human societies (see Durkheim 1960, pp. 13–14 [1953, p. 42]). Some other method was thus required—one which met the austere criteria of science (i.e., description and classification, interpretation and laws), but one also consistent with the nature of the subject matter under investigation (i.e., real, concrete, diverse, complex, etc.). And this, of course, had been the special contribution of Montesquieu.

## THE PROBLEM OF TYPES

To Durkheim, the purpose of *The Spirit of the Laws* was clear—Montesquieu's goal was to “get to the bottom of social phenomena,” to “seek out their origins and discover their physical and moral causes.”<sup>35</sup> But what particularly impressed Durkheim were those elements of Montesquieu's thought—e.g., book 1, chapter 3, “Of the Principles of the Three Kinds of Government”—that set him apart from his Enlightenment contemporaries and more closely resembled the 19th-century German concern for historical context and ethical relativity.<sup>36</sup> Whereas earlier philosophers were convinced that “one form of political regime, one moral and legal discipline, was consonant with the nature of all men,” for example, Montesquieu understood that “the rules of life vary with the conditions of existence” (Durkheim 1960, pp. 17–18 [1953, pp. 47–48]). Recognizing the diversity of societal types, Montesquieu considered all equally “normal,” and refused to “lay down rules valid for all peoples” (Durkheim 1960, p. 18 [1953, p. 47]). And while Montesquieu clearly realized the advantages of one type of institution over another, these judgments were always rendered “on the basis of norms derived from the phenomena themselves, and thus corresponding to their diversity” (Durkheim 1960, p. 18 [1953, p. 48]).<sup>37</sup>

I have already noted the extent of Montesquieu's debt to the tradition of natural law, while simultaneously emphasizing his ambivalence concerning its relation to the laws of civil society. This ambivalence in turn became the source of much of Durkheim's admiration for *The Spirit of the Laws*. It is true, Durkheim acknowledged, that Montesquieu recognized that societies are composed of individual human beings, that such beings have a “nature” that distinguishes them from other animals, and that the nature of human societies reflects this nature of its component parts. But it was precisely here that Montesquieu and Durkheim (the

<sup>35</sup> From the French edition, it is clear that here Durkheim was relying on Montesquieu's *Défense de l'esprit des lois et éclaircissements* (1750), a reply to his critics written shortly after the appearance of *The Spirit of the Laws* itself. See the translator's note in Durkheim (1953, p. 43nn.1–2).

<sup>36</sup> See Montesquieu (1949, pp. 19–28). Montesquieu, of course, had been a powerful influence on the “Romantic” or “historical” school of German jurisprudence (see above).

<sup>37</sup> “Il vaut mieux,” Durkheim said in reference to bk. 1, chap. 3 of *The Spirit of the Laws*, “dire que le gouvernement le plus conforme à la nature est celui dont la disposition particulière se rapporte mieux à la disposition du peuple pour lequel il est établi” (1953, p. 48n.14). Montesquieu “admire sans doute la Monarchie,” Durkheim acknowledged, “parce qu'il trouve dans sa structure un art beaucoup plus grand, mais ce n'est pas, à ses yeux, une raison pour y voir la forme d'Etat la meilleure en soi: tout au contraire, s'il arrivait qu'elle fût établie dans une société comptant un petit nombre de citoyens ce serait, pour lui, une société destinée à périr” (1953, p. 48n.15).



latter following Boutroux) refused to reduce the explanation of social phenomena to psychological causes. The natural instincts that lead human beings into social relationships may "open the way to society," Durkheim argued, but they do not "produce the forms, nature, or laws of society. Social institutions can in no way be explained by such factors" (Durkheim 1960, p. 19 [1953, p. 50]). Montesquieu's treatment of the problem of human nature, Durkheim thus emphasized, was "hasty and superficial," for it "has no direct bearing on the subject of his work"; and for the same reason, Montesquieu sharply separated the "laws of nature"—meaning the nature of individual human beings—from the civil, political, and international law of human societies.<sup>38</sup>

What impressed Durkheim still more, however, was that Montesquieu—having thus refused to explain civil and political law as the consequence of human nature—equally refused to explain it by reference to an original agreement, contract, or convention. For such contracts and conventions, Durkheim argued, are artificial, have no place in nature, and thus subvert the very possibility of social science. In Montesquieu, by contrast, the laws of society "are based on reality, but not in the same way as the natural laws, since they result from the nature, not of man, but of societies. Their causes are to be sought in social conditions rather than in the human mind" (Durkheim 1960, pp. 19–20 [1953, p. 50]). If we want to understand the civil laws of a given nature, for example, Montesquieu insists that we must know the size of its population and the nature of the social bonds between its citizens. "With a wonderful lucidity," Durkheim observed, Montesquieu understood that "the nature of societies is no less stable and consistent than that of man and that it is no easier to modify the type of a society than the species of an animal" (Durkheim 1960, p. 21 [1953, p. 52]).<sup>39</sup>

But Durkheim understood the extent of Montesquieu's ties to the past. Consider the question raised earlier: If natural law and civil law conflict, how are we to decide which to obey? Confronted with this dilemma, Montesquieu would insist that we follow the laws of nature (Montesquieu 1949, chaps. 3, 4, and esp. 5). But why, Durkheim asks, should the nature of man be more sacred than the nature of society? The only way

<sup>38</sup> Davy (1960, p. 150) here sides with Montesquieu: "One may wonder whether the bias by which [Durkheim] sacrifices any source of explanation or necessity that is not strictly social on the altar of objectivity is not still farther from objectivity than Montesquieu's less explicit and less clear but more comprehensive approach."

<sup>39</sup> Durkheim added that it is thus "unjust to compare Montesquieu with Machiavelli, who regarded laws as mere instruments that princes can use as they see fit. Montesquieu established law on as firm a basis as Grotius and his disciples, though, as we have said, in an entirely new way" (1960, p. 21 [1953, p. 52]).

out of this impasse, Durkheim argues, is to take a still more extreme position—that is, “to assume that all rules of law and custom, even those pertaining to individual life, result from social existence.” Here Montesquieu, “despite the novelty of his point of view, remains a captive to earlier conceptions” (Durkheim 1960, pp. 22–23 [1953, p. 54]).

Ostensibly, Montesquieu’s treatment of the problem of classification also seemed to have a small foot in the past. Comte had thus emphasized that Montesquieu’s classification of societies—that is, republics (both aristocratic and democratic), monarchies, and despotisms—was really a classification of the ways societies are governed, and that in this sense Montesquieu had simply adopted the traditional categories of Aristotle. But unlike Comte, who had criticized Montesquieu for this reversion to the Aristotelian classification, Durkheim recognized significant differences between *The Spirit of the Laws* and *The Politics*.<sup>40</sup> The most important of these was that Montesquieu, while *naming* the types of societies according to their forms of sovereignty, had *classified* these types according to the nature of their social institutions.<sup>41</sup> Where Aristotle had deduced his classification from an abstract, a priori principle (i.e., the number of rulers), Montesquieu had introduced a more inductive, empiricist approach, comparing real societies (e.g., Rome, Athens, and Sparta) from different regions and historical periods.

This introduction of the comparative method explains why, as Momiigliano (1977, p. 339) put it, “the link between Montesquieu and Fustel was in everyone’s mind” during the early 1890s. And in *The Spirit of the Laws*, it yielded empirical observations concerning the nature of concrete societies reminiscent of *The Division of Labor in Society*. In book 4 of *The Spirit of the Laws*, for example, Montesquieu had emphasized the need for the “whole power” of education in a republic, because this form of government depends upon “arduous and painful” self-renunciation. This virtue of self-renunciation, Montesquieu added, “may

<sup>40</sup> In general, Durkheim considered Comte a poor interpreter of Montesquieu’s work and its significance. Comte’s evaluation of Montesquieu’s thought in *Cours* is “very briefly stated and . . . it is somewhat incorrect. It does not seem to reflect careful attention to his predecessor’s theory” (Durkheim 1960, p. 141n.18 [1953, p. 110n.2]).

<sup>41</sup> Durkheim provides two explanations for *why* Montesquieu would thus employ one criterion for the naming of societal types and another for their classification. First, Durkheim observes, the form of sovereignty was the most visible and apparent social property these societies possessed; and second, because Montesquieu’s predecessors had not yet discovered any alternative social property that might serve as a criterion of classification, it was difficult for him break with this tradition and still communicate effectively with his audience. But with the exception of his more traditional terminology, Durkheim insists, Montesquieu’s classification—with its emphasis on the structural features of the societal types—conforms with the principles of modern social science (Durkheim 1960, pp. 32–33 [1953, pp. 69–70]).

be defined as the love of the laws and of our country. As such love requires a constant preference of public to private interest, it is the source of all private virtues; for they are nothing more than this very preference itself (Montesquieu 1949, p. 34). The virtues taught in monarchies, by contrast, "are less what we owe to others than to ourselves; they are not so much what draws us towards society, as what distinguishes us from our fellow-citizens" (Montesquieu 1949, p. 29). The most significant difference between republics and monarchies, Durkheim agreed, is that the former exhibit a kind of political virtue that "resides in love of country and leads men to place the interests of the state above their own" (Durkheim 1960, p. 28 [1953, p. 61]), while in the latter, "the members of society disregard the general welfare in favor of their personal interests, so that the conditions making for the *virtue* which is the foundation of the republic are lacking" (Durkheim 1960, p. 30 [1953, p. 65]).

More important, Montesquieu recognized that this significant difference in the *esprit* of these societal types could be explained as a necessary consequence of their structural features.<sup>42</sup> The division of labor in a republic, for example, is of a type Durkheim would later call "mechanical"—that is, "that part of the individual consciousness which is an expression of society and which is the same in all persons" is "broad and powerful," while "that part which relates to the individual and his personal affairs is weak and limited" (Durkheim 1960, p. 28 [1953, p. 62]). The division of labor in a monarchy, by contrast, "may be compared to a living organism, each of whose parts performs a specific function in accordance with its nature," but in which "this very diversity of the component parts makes for cohesion" (Durkheim 1960, pp. 29, 30 [1953, pp. 63, 65]). And in *The Spirit of the Laws*, Durkheim added, such differences extend to "all aspects of life. Customs, religious practices, the family, marriage, the rearing of children, crimes and punishments, are not the same in a republic, a monarchy, and a despotism." In sharp contrast to other writers of the Enlightenment, Montesquieu seems "to have been more interested in the differences between societies than their similarities" (Durkheim 1960, p. 32 [1953, p. 68]).<sup>43</sup>

<sup>42</sup> This recognition of societal *types*—rather than just their random similarities and differences—was, for Durkheim, an "indispensable condition" for their classification: "It is not enough that societies should manifest similarities of one kind or another; it must be possible to compare them in their whole structure and existence" (Durkheim 1960, p. 62 [1953, pp. 110–11]).

<sup>43</sup> Compare the similar judgment of Isaiah Berlin (1980, pp. 157–58): "So far is [Montesquieu] from the vice prevalent in his day of grading all outlooks and cultures in terms of their distance from the enlightened standards of the eighteenth century, that he rendered himself suspect to both the obscurantists and the radicals of his time by too great a tenderness for institutions different from those of the Christian west.

## THE PROBLEM OF LAWS

Durkheim thus treated Montesquieu's classification of societal *types* as a major contribution to the advancement of social science. But its significance paled by comparison with Montesquieu's application of the concept of *law* to social phenomena—a judgment that Durkheim derived from his notion of the historical development of the sciences generally. “In all sciences,” Durkheim explained, “the notion of type appears earlier than that of law, because the human mind conceives it more readily. One has only to look around to note certain similarities and differences between things.” But the “determinate relations [we call] laws,” he added, “are closer to the nature of things and consequently hidden within it. They are covered by a veil that we must first remove if we are to get at them and bring them to light” (Durkheim 1960, p. 62 [1953, p. 111]). How much more difficult, Durkheim then argued, to extend the notion of law to *society*—“so mobile, diversified, and rich in forms that to my mind it cannot be reduced to fixed and immutable laws.”<sup>44</sup>

To Durkheim, this extension of the idea of law to the realm of social phenomena was Montesquieu's greatest achievement. “Laws,” Durkheim cited the famous opening of *The Spirit of the Laws*, “are the necessary relations arising from the nature of things. In this sense all beings have their laws: the Deity his laws, the material world its laws, the intelligences superior to man their laws, the beasts their laws, man his laws” (Montesquieu 1949, p. 1). This passage epitomized the rationalist belief in a determinate order in nature, subject to the rational interpretation of human beings; and it was Montesquieu's great distinction to have extended this definition from the world of nature to that of society (Durkheim 1960, p. 36 [1953, p. 75]). Comte, of course, had argued in *Cours* that the chaotic mass of empirical data that followed evinced no order whatsoever, insisting that Montesquieu had thus betrayed his Cartesian principles (related in Durkheim 1960, p. 139n.9). But here again Durkheim defended Montesquieu's apostasy, arguing that, among his 18th-century contemporaries, Montesquieu was unique in recognizing that the laws inherent within social phenomena are neither “fixed” nor “immutable”; rather, they vary according to the specific conditions of the society in which they are found.

Durkheim's favorite example here was again one that found a promi-

---

The substitution of general principles for the faculty of sensing individual differences is, for him, the beginning of evil.”

<sup>44</sup> Here, of course, emphasis should be placed on the words “reduced,” “fixed,” and “immutable.” An additional obstacle, Durkheim continued, is that “men do not like to think that they are bound by the same necessity as other natural phenomena” (1960, p. 63 [1953, pp. 111–12]).

ment place in *The Division of Labor in Society*—the influence of *social volume* on societal types. The republican form of government, for example, is most appropriate to a small population confined within a limited geographical setting—that is, since “the conditions of existence are approximately the same for all” and “the mere lack of space makes diversity impossible,” social differentiation is rudimentary and all citizens have a sense of their meaningful participation in public affairs. As the society grows larger, “increasing differentiation gives rise to divergent outlooks and objectives” and it becomes “more difficult for the individual citizen to have a sense of the public weal,” so that the republic gives way to a monarchy. And if the society grows still larger, the monarchy gives way to despotism, for “a vast empire cannot subsist unless the prince has the absolute power enabling him to maintain unity among peoples scattered over so wide an area.” (Durkheim 1960, pp. 37–38 [1953, pp. 77–78]).<sup>45</sup> Again, Durkheim’s admiration for this argument was not unqualified. There are numerous examples of small despotisms and large democracies, for example, and the explanation itself, as Durkheim noted, was “rather vague and uncertain.” Most important, Montesquieu viewed social volume in largely political terms—that is, as equivalent to the number of persons *subject to the same authority*—while for Durkheim, the crucial factor was rather the number of persons *bound by the same kind of relationship*.<sup>46</sup> But Durkheim still praised Montesquieu’s “great insight” in attributing such an influence to social volume: “This factor,” Durkheim argued, “is indeed of the highest importance in determining the nature of societies, and in our opinion accounts for the chief differences between them. Religion, ethics, law, the family, etc., cannot be the same in a large society as in a small one” (Durkheim 1960, p. 38 [1953, p. 78]).

With factors such as social volume exerting an influence on the development of social institutions, the influence of individual political leaders—and with it that of conscious, willful action generally—would seem to be diminished. But in book 19, “Of Laws in Relation to the Principles which Form the General Spirit, the Morals, and Customs of a Nation,”<sup>47</sup>

<sup>45</sup> Durkheim’s examples here are largely taken from “Of the Corruption of the Principles of the Three Governments” (Montesquieu 1949, bk. 8, esp. chaps. 15–21, pp. 120–25).

<sup>46</sup> “However large the number of persons who obey the same leader,” Durkheim explained, “if the distance between groups is so great that there can be little or no relation between them, the size of the population produces no effect” (1960, pp. 38–39 [1953, pp. 78–79]).

<sup>47</sup> See esp. chap. 16, “How some Legislators have confounded the Principles which govern Mankind,” and chap. 19, “How this Union of Religion, Laws, Manners, and Customs amongst the Chinese was effected” (Montesquieu 1949, pp. 300–301, 303–4).

Montesquieu granted a substantial role to the legislators of China and Sparta in the development of their society's laws. There were of course limits to this role—for example, Montesquieu did not believe that laws were made arbitrarily; he argued that custom and religion were beyond the power of the legislators and held that laws relating to other matters had to be compatible with custom and religion. But “the actual establishment of these laws,” Durkheim observed, “is in the hands of the law-giver. There are even societies in which not only the laws but the religion and customs as well can, to some extent, be fashioned by the prince” (Durkheim 1960, p. 41 [1953, pp. 82–83]).

To Durkheim, this emphasis on the role of political authority seemed ill-suited to the more general principle that “human laws spring from the nature of things” (related in Durkheim 1960, p. 41 [1953, p. 83]). But this assertion of Montesquieu's can be interpreted in two different ways. On the one hand, it might mean that human laws follow from the nature of societies *as an effect follows from the cause which produces it*. In this case, society would be what Aristotle called the *efficient* cause of the laws in question. On the other hand, it might mean that human laws are simply instruments that *the nature of the society requires in order to fulfill itself*. In this case, society would be what Aristotle called the *final* cause of human laws. Durkheim was convinced that Montesquieu intended the second usage—indeed, that he never even entertained the first (see above and Berlin 1980, pp. 140–41). The laws of a democracy, for example, do not result necessarily from the limited number of its citizens “as heat results necessarily from fire”; on the contrary, these laws alone “make possible the frugality and general equality which are in the nature of this kind of society” (Durkheim 1960, p. 42 [1953, p. 83]). From the view that society is thus a final rather than an efficient cause, it follows that laws cannot be formed arbitrarily; for under any particular set of social conditions, only one body of laws would be appropriate. From the same view, it follows that what laws are suitable to a particular society can be determined only by those who have some insight into its peculiar nature, a consequence that grants—as does Montesquieu—a considerable role to political authority.<sup>48</sup>

<sup>48</sup> This Aristotelian commitment to final causes thus allows Montesquieu to escape the kind of criticism that Durkheim would later direct at the *Kathedersozialisten*—i.e., that both treated the study of ethics more as art than as science. Durkheim felt that the *Kathedersozialisten* in particular had a confidence in legislative action that was inconsistent with the natural, organic character of social facts. It was the latter reservation to which Durkheim referred when he replied to Simon Deploige that “au fond, j'ai plutôt de l'éloignement pour le socialisme de la chaire qui lui-même n'a aucune sympathie pour la sociologie dont il nie le principe” (1907, pp. 613–14; see Jones 1993).

Much of the explanatory power of *The Division of Work in Society*, of course, derives precisely from Durkheim's view that social causes are efficient (not final) causes—indeed, that legal institutions follow social forces almost “as heat results necessarily from fire.” The same arguments are foreshadowed in the Latin thesis. “Social phenomena,” Durkheim argued, “are not, as a rule, the product of calculated action. Laws are not devices that the lawgiver thinks up because they seem to be in harmony with the nature of the society. They spring most often from causes which engender them by a kind of physical necessity. In consequence of the society's particular situation, communal life must necessarily assume a certain definite form. This form is expressed by the laws, which thus result with the same inevitability from the efficient causes” (Durkheim 1960, pp. 42–43 [1953, pp. 84–85]).

It is at least arguable that Durkheim's differences with Montesquieu here derive largely from Durkheim's exposure to the German social science, particularly the historical school of jurisprudence. “Montesquieu,” Durkheim argued, “would doubtless have seen [that social causes are efficient rather than final causes] had he recognized that laws do not differ in nature from customs”; on the contrary, laws “derive from [customs]” and “are simply customs more sharply defined (Durkheim 1960, p. 43).<sup>49</sup> The *usefulness* of laws to society refers to their functions, not their causes, and the latter lie in the collective unconscious of earlier generations, far beyond the rational will of legislators.<sup>50</sup>

Quite aside from his Aristotelian predilection for final causes, Montesquieu's conception of the laws governing social phenomena had at least two other implications that troubled Durkheim. First, Montesquieu's position that civil laws do *not* follow necessarily from efficient causes introduced an element of *contingency* in the relationship between natural and positive laws. This contingency is sometimes reflected in the blunders of human, and therefore entirely fallible, legislators. Durkheim recognized the attractions of this argument, which he again traced to Aristotle; but Durkheim also insisted that Aristotle's view was based upon a false

<sup>49</sup> Here again, Davy (1960, pp. 151–52) sides with Montesquieu rather than Durkheim.

<sup>50</sup> “Though we may understand how a given law is useful to society,” Durkheim explained, “this does not explain its origin. Hence anyone who limits his inquiry to the final causes of social phenomena, loses sight of their origins and is untrue to science. This is what would happen to sociology if we followed Montesquieu's method” (1960, pp. 43–44 [1953, p. 86]). The French translator of the Latin thesis, Armand Cuvillier, suggested here that Durkheim might have been too severe with Montesquieu, and recommended Georges Davy's introduction to the 1953 edition as a corrective (in Durkheim 1953, p. 86). But it is difficult to find fault with Berlin's (1980, pp. 140–41) judgment on the metaphysical overtones of Montesquieu's position here.

principle.<sup>51</sup> The fortuitous blunders to which Montesquieu referred were, to Durkheim, simply those “diseases” of the social organism that play such an important role in book 3 of *The Division of Labor in Society* (see Durkheim 1984, pp. 291–341); and disease, Durkheim extended the metaphor, no less than health, is inherent in the nature of living things. Moreover, because both health and disease are thus parts of the same determinate order, they can be compared in a manner that advances our understanding of each. In short, like Montesquieu, Durkheim employed the classical, metaphorical language of medicine; but he used it for a different purpose—that is, to eliminate the element of contingency from positive laws and thus to assimilate them within his own, more mechanistic philosophy of science.

Second, while Montesquieu had insisted that laws are “the necessary relations arising from the nature of things,” his parallel insistence that such laws might be violated indicated that this “necessity” was not *real* but merely *logical*. The laws might “necessarily” express what is implied in the definition of a society, Durkheim observed, while the definition itself might *not* follow rationally from the nature of the society in question. In this case, the laws would tell us what is rational rather than what is real.<sup>52</sup> Montesquieu, Durkheim thus complained, applies the word “laws” to relations between *ideas* rather than the relations between *things*.<sup>53</sup> Durkheim was perplexed, for example, by Montesquieu’s suggestion that certain institutions (e.g., slavery) were incompatible with the “nature” of certain kinds of societies (e.g., republics), despite the fact that all ancient republics had slavery. In such a view, Durkheim objected, “the order that science should seek would be different from anything that has ever existed.” So Durkheim clearly suspected Montesquieu of occasionally reverting to an older, rationalist, and idealist conception

<sup>51</sup> “This false opinion fits in so well with the outward appearance of things,” Durkheim observed, that “it held its ground for a long time, even in psychology. Since it seemed evident that living things were naturally healthy, it was concluded that disease is a violation of the state of nature because it is an obstacle to health. Thus Aristotle believed that disease, monsters, and all wayward forms of life were the result of some obscure contingency. It was not possible to rid social science of this error all at once, particularly since disease is nowhere so prevalent as in human societies and since the normal state is nowhere else so indeterminate and difficult to define” (1960, p. 46 [1953, pp. 89–90]).

<sup>52</sup> Here again, Durkheim sides with the “social realism” of German social science against the Cartesian rationalism.

<sup>53</sup> “To be sure,” Durkheim softened his objection, “these ideas are those which a society must hold if it is faithful to its nature, but it can depart from them. Yet his social science does not degenerate into pure dialectics because he realizes that what is rational is precisely what exists most often in reality. Thus his ideal logic is to some extent situated in the empirical world. But there are exceptions which introduce an element of ambiguity into his concept of law” (1960, p. 63 [1953, p. 112]).



of social science, one concerned with "what ought to be rather than what is" (Durkheim 1960, p. 48 [1953, p. 93]).<sup>54</sup>

#### THE COMPARATIVE METHOD: RATIONALISM, EMPIRICISM, AND AMBIVALENCE

These sentences conclude Durkheim's discussion of the extent to which Montesquieu thought that there are definite laws of social things; and they open a window onto one of the most fundamental intentions behind the Latin thesis—that is, Durkheim's effort to replace the language of Cartesian rationalism, logic, and metaphysics with the more concrete, empirical vocabulary of German social science.<sup>55</sup> "So long as social science was only an art," Durkheim began, "writers on social questions chiefly employed the deductive method. From the general notion of man they derived the form of society consonant with human nature and the precepts to be observed in social life" (Durkheim 1960, p. 50 [1953, p. 95]). To Durkheim—recently exposed to the achievements of Wundt and his associates at the Psychologisches Institut in Leipzig—the French adherence to this Cartesian tradition was the greatest obstacle to a scientific sociology and, indirectly, to a secular morality for the Third Republic. Durkheim acknowledged that deduction "offers us ideas that guide us amid the obscurities of experience"; but where we are dealing with "realities" rather than with "abstract notions as in mathematics," these ideas must be confirmed by observation and, still more important, by experiment. Nature "must be questioned, hounded, put to the test in a thousand and one ways," Durkheim argued. Because social science "deals with phenomena, it can achieve its objectives only through the experimental method" (Durkheim 1960, p. 50 [1953, p. 95]).

Durkheim's model here, as we have already seen, was Wundt's experimental psychology laboratory in Leipzig; but as we have also seen, Durkheim shared Comte's view that experimentation was virtually impossible in the study of human societies. In short, Durkheim needed a substitute for the experimental method, one more appropriate to the nature of the subject matter under investigation, but which retained the precision, detail, and control of its psychological counterpart. He found this substitute in the comparative method. The "essence of experimentation,"

<sup>54</sup> But still, Durkheim again softened his criticism, if Montesquieu's work "retains some of the old confusion between art and science, something vague and uncertain, this defect is only occasionally apparent" (Durkheim 1960, p. 49 [1953, p. 94]).

<sup>55</sup> This conception of the history of ideas as a succession of different vocabularies is of course the contribution of Richard Rorty (1979). On the application of Rorty's ideas to the history of social science generally, and Durkheim's sociology in particular, see Jones and Kibbee (1993) and my conclusion below.

Durkheim observed, is simply "to vary phenomena freely," so that they provide "a broad and rich field for comparison." In the same way, we can "[compare] social phenomena of the same class as they appear in different societies," identifying "those which always tally, those which disappear simultaneously, and those which vary at the same time and in the same proportions." To discover the laws of nature, therefore, we need only to "make a sufficient number of comparisons between the various forms of a given thing." This enables us to distinguish the "constant, unchanging relations expressed in the law" from those that are "merely ephemeral and accidental." Comparisons, Durkheim concluded, "meet the need for experiment in social science" (Durkheim 1960, p. 51 [1953, p. 96]).

Montesquieu, Durkheim then argued, "instinctively recognized" the need for this comparative method. Montesquieu's purpose in gathering data from various cultures and throughout history was precisely to compare them and derive laws from them; indeed, Durkheim added, "his entire work is clearly a comparison of the laws observed by the most divergent peoples, and it is perfectly correct to say that in *De l'esprit des lois*, Montesquieu instituted a new field of study, which we now call *comparative law* [*droit comparé*]" (Durkheim 1960, p. 51 [1953, p. 97]). But Durkheim still found Montesquieu's social science too much in the Cartesian tradition. For example, Montesquieu had announced, "I have laid down the first principles and have found that the particular cases follow naturally from them; that the histories of all nations are only consequences of them; and that every particular law is connected with another law, or depends on some other of a more general extent" (Montesquieu 1949, p. lxvii). Quite reasonably, Durkheim took this as a declaration that Montesquieu intended "to deal with social science in an almost mathematical way," laying down first principles "from which the particular laws of societies follow logically" (Durkheim 1960, p. 51 [1953, p. 97]). Far from collecting all the relevant facts and studying them objectively, Montesquieu thus "attempts by pure deduction to prove the idea he has already formed." Where he claims that there is a causal relation between two facts, for example, Montesquieu rarely shows that they appear simultaneously, disappear simultaneously, or vary in the same way. Again, an entire societal type (e.g., monarchy) is sometimes endowed with a specific property (e.g., the separation of powers) that he has observed in only a single case (England). And again, he insists that certain institutions (e.g., slavery) cannot be appropriate to certain societies (e.g., Athens) because they cannot be derived from the principles of these societies (e.g., virtue) as he conceives them. "Although induction made its first appearance in social science with Montesquieu," Durkheim concluded, "it was not yet clearly separated from the [deductive] method,

and was contaminated by the mixture" (Durkheim 1960, p. 53 [1953, p. 100]).

This "methodological ambiguity" of *The Spirit of the Laws*, Durkheim observed, had at least two causes. The first was Montesquieu's inability to break with the powerful tradition of Cartesian rationalism. According to this tradition, the "normal" institutional arrangements of any society are implicit within the underlying "nature" of that society. These arrangements can therefore be logically deduced once the nature of the society in question has been defined; it was these logical necessities that Montesquieu called laws. The startling thing to a more skeptical, empiricist age, Durkheim (in effect) suggested, was the ease with which Montesquieu felt this underlying nature could be grasped; but such a view was utterly consistent with Montesquieu's rationalist principles: "Just as the connection between social phenomena and the essence of society is a rational one," Durkheim explained, "so this essence, which is the source of the entire deduction, is also of a rational nature; that is, it consists in a simple notion that reason can grasp at one quick glance" (Durkheim 1960, p. 54 [1953, p. 101]). Montesquieu thus failed to grasp the extent to which, as Francis Bacon argued in the *Novum Organum*, the "subtlety of things" far surpasses the "subtlety of the human mind" (emphasis added). Social phenomena may have "a certain fundamental logic," Durkheim admitted, but "it is not the logic to which our deductive reasoning conforms. It has not the same simplicity. Perhaps it observes other laws. If we are to learn this logic," Durkheim added, "we must consult the things themselves [*les choses elles-mêmes*]" (Durkheim 1960, p. 54 [1953, p. 101]).

The second cause was, in a sense, the inverse of the first. However rational the laws of nature, we have already seen that Montesquieu admitted the possibility—even the empirical frequency—of their being violated and corrupted by human legislators. This possibility admitted, it becomes impossible to discover the "normal" institutional arrangements of any society by inductive means. The result, Durkheim argues, is that Montesquieu always felt a typical rationalist's distrust of the powers of empirical observation and—his "instinctive recognition" of its necessity notwithstanding—of comparison as well (Durkheim 1960, p. 55 [1953, p. 102]).

Proceeding deductively or inductively, however, Montesquieu had recognized a related, equally important principle of the comparative method—that is, that all the elements of a society (e.g., religion, law, morality, the economy, etc.) form an organic whole. "Unless we try to understand how [these elements] harmonize and interact," Durkheim argued, "it is impossible to know their functions. We shall even fail to discern their natures, for they will seem to be distinct realities, each with its independent existence, whereas they are actually parts of a whole"

(Durkheim 1960, p. 56 [1953, p. 103]). And the previous failure to adhere to this principle had been severely damaging not only to social science but also—if we read carefully between the lines of Durkheim's examples—to political and economic reform. Moral philosophers, for example, had dealt with questions of ethics “as though they existed by themselves,” disregarding the “economic character of the societies in question.” Inversely, political economists had dealt with the subject of wealth “without the slightest attention to the system of rules that we call ethics.” In the strict sense, Durkheim argued, social science “came into being only when it was clearly perceived that [these elements] were bound together by strict necessity and were parts of a whole”;<sup>56</sup> and in recognizing this “interrelatedness of social phenomena, Montesquieu foreshadowed the unity of our science” (Durkheim 1960, p. 57).<sup>57</sup>

Finally, any discussion of the sources of Durkheim's comparative method must pay special attention to the powerful evolutionary perspective articulated in *The Division of Labor in Society*. When we compare different societies, Durkheim observed, we notice that “certain forms of properties” that are “manifestly inherent” in some societies are “merely adumbrated” in others, an observation that leads us to speak of some societies as “superior,” and to suggest that these grow out of their “inferior” counterparts (1960, pp. 57–58). Here Durkheim explicitly rejected unilinear evolutionary doctrines that placed ancient societies at the bottom and modern societies at the top.<sup>58</sup> This caveat entered, however, Durkheim endorsed the notion that “societies issue from other societies” and that “that later [societies] are superior to the earlier” as one that “in our time has transformed the method of social science” (Durkheim 1960, pp. 58, 57 [1953, pp. 106, 105]).

Montesquieu was not completely oblivious to this notion, Durkheim acknowledged, in the sense that he preferred “the republic and monarchy to despotism, monarchy to the republic, and the republic to the democracy of barbaric peoples” (1960, p. 58). But he did not understand that these different societal types “grow successively from the same root,” and argued instead that “each springs independently of the others”

<sup>56</sup> The interrelation of these elements, of course, was the reason for Durkheim's interest in the German economists Adolf Wagner and Gustav Schmoller, as well as the psycho-anthropologists Moritz Lazarus and Heymann Steinthal (see Durkheim 1887b, pp. 33–49; Jones 1993).

<sup>57</sup> Even here, Durkheim's praise was not unqualified. Montesquieu's understanding of this principle “was still vague. Nowhere does he say that the problems he deals with might form the subject matter of a definite science embracing all social phenomena and having a method and name of its own” (Durkheim 1960, p. 57 [1953, p. 105]).

<sup>58</sup> “One is reminded more of a tree,” Durkheim added, “with branches spreading in different directions” (1960, p. 58 [1953, p. 106]).

(1960, p. 140n.14).<sup>59</sup> While Montesquieu did not deny that "the social principle of particular peoples can be developed or corrupted," therefore, he did believe that "this principle is determined when a people comes into existence, and must be preserved intact throughout its history." The result is that Montesquieu failed to see that "every society embodies conflicting factors," the consequence of its having emerged from a past but not yet realized its future; in short, Montesquieu did not understand that process "whereby a society, while remaining faithful to its nature, is constantly becoming something new" (Durkheim 1960, p. 59 [1953, pp. 107–8]). In effect, Durkheim was arguing that Montesquieu shared one of the more salient shortcomings of the Enlightenment mentality in general—that is, an acute lack of historical sensibilities.

This was a shortcoming that Durkheim—having taken the full measure of the German historical school of jurisprudence—did not share. Social existence, he argued, is determined by causes of two distinct types. The first consists of present circumstances, including the society's topography and population size—matters to which Montesquieu granted considerable attention. The second type concerns causes that are more historical: "Just as a child would be different if he had had other parents," Durkheim explained, "so the nature of a society depends upon the form of the societies preceding it" (Durkheim 1960, p. 59 [1953, p. 108]). Failing to see these "relations of succession and kinship between societies," Durkheim observed, Montesquieu almost completely ignored causes of this second type. The result was that Montesquieu's comparative method contrasted sharply with that of Comte, who argued, according to Durkheim, that "the nature of a society depends entirely upon the time of its emergence," and also that "social science consists almost entirely in establishing the series of societies." But neither of these doctrines, Durkheim concluded, "expresses more than a part of the truth" (1960, p. 60 [1953, p. 109]).

In sum, virtually every aspect of the Latin thesis on Montesquieu reflects Durkheim's ambivalence concerning the legacy of Cartesian metaphysics, as well as his growing attraction for the normative vocabulary of German empiricism. Durkheim admired Montesquieu's recogni-

<sup>59</sup> The noteworthy exception here was monarchy, which Montesquieu believed developed out of inferior democracy (see Montesquieu 1949, bk. 11, chap. 8, pp. 162–63; bk. 18, chaps. 14, 22, pp. 277, 281–86, 290–91; n.13 in Durkheim 1960 refers mistakenly to bk. 8, chaps. 20 and 30). Even this exception, Durkheim argued, shows precisely how far Montesquieu was from the notion of evolutionary progress; for "primitive democracy, which he regards as superior to no other form of society, is for him the original type precisely because it is inferior to all others" (1960, p. 59 [1953, p. 107]). The translator, Ralph Manheim suggests that, for Durkheim, it was obviously the "*démocratie inférieure*" that is in question (Durkheim 1960, p. 140 [1953, p. 107n.14]).

tion of the real, concrete diversity of societal types, praised his refusal to deduce "rules valid for all peoples" from artificial first principles, and—anticipating *The Division of Labor in Society*—applauded his explanation of the *esprit* of each societal type as the natural consequence of its structural features. At least equal praise was given to Montesquieu's refusal—so unusual among his Enlightenment contemporaries—to reduce explanations of civil and political law to the principles of human nature, or to some putative, original contract or covenant. Durkheim lamented the extent to which Montesquieu was still bound by the legacy of Aristotle and by the traditions of natural law, not to mention the disturbing element of contingency that leavened the causal explanations of *The Spirit of the Laws*. But, recognizing that Montesquieu's "greatest achievement"—that is, the extension of the idea of law to the realm of social phenomena—reflected an undeniable, continuing attachment to the rationalist belief in a determinate order of nature, Durkheim still emphasized how "unique" it was for an 18th-century social philosopher to insist that these laws were neither fixed nor immutable. Finally, the notion that social volume affects the structures of laws and society, which plays so large a role in *The Division of Labor in Society*, was found in Montesquieu's discussion of the conditions of republican government.

This ambivalence in Durkheim's treatment of *The Spirit of the Laws* was more than matched by that work itself. For as Berlin has shown, Montesquieu was a most reluctant rationalist, an uneasy ally to the Enlightenment's celebration of reason, reform, and social progress, and an author whose greatest achievements derived precisely from those moments when, seduced by an insatiable curiosity and a fascination for the particular, the detailed, and the concrete, he digressed and thus deserted the rationalist credo of his milieu. In fact, it was precisely this reluctance and uneasiness, these digressions and this eventual apostasy, that excited Durkheim's interest. For Durkheim shared this ambivalence, sensed it in his predecessor, and thus used the Latin thesis as a vehicle for the "working out" of his own conception of the relative value of rationalism and empiricism.

## CONCLUSION

Why did Durkheim share Montesquieu's ambivalence concerning Descartes? And why should sociologists care if he did? A partial answer to the first question has recently been advanced by Ernest Gellner, who accurately identifies the tacit assumptions of Descartes' defense of a singular, generic human reason as "individualist, classicist, bourgeois [in] spirit, un-romantic, anti-communal and unhistorical" (Gellner 1992, pp. 13; see also p. 30)—in short, as antithetical to much of Durkheimian

sociology, and especially to Durkheim's (1915) comparative, ethnographic analysis of multiple, diverse human rationalities in *Les Formes élémentaires de la vie religieuse*.<sup>60</sup> Similarly, in an article that both expands my earlier methodological arguments and analyzes Durkheim's important 1887 essays on German philosophy and social science, Doug Kibbee and I (Jones and Kibbee 1993, pp. 164–67) emphasized the extent to which the “old rationalism” of Descartes had become an obstacle to the success of the Third French Republic.<sup>61</sup> The older rationalism, Durkheim observed, had been fitted for the mathematical certainties of the 17th and 18th centuries, for men who “could only see things in simplified and idealized form, who reduced man to clear thinking and the world to its geometrical forms.” In sharp contrast, the “new rationalism” of the Third Republic would have to acknowledge some awkward German truths—that is, that *things*, “whether human or physical, are irreducibly complex,” that “simple conceptual combinations” could no longer be mistaken for reality itself, and that the “infinite richness” of nature (including human nature) would have to be observed more carefully (Durkheim 1938, p. 399).<sup>62</sup>

The historical background for Durkheim's argument, with its foundation in the realism of the Moravian educational theorist Comenius (1592–1670), can be found in *L'Évolution pédagogique en France*, (1938, in English, 1977; elsewhere [Jones 1990] I have discussed Durkheim, Comenius, and educational realism); its critique of the “old rationalism” of Descartes is extended in *L'Éducation morale* (1925). The French, Durkheim again complained, “understand things in proportion as they are simple”—a tendency epitomized in Descartes himself, for whom the secondary qualities of matter were illusory, and for whom mathematical extension constituted “reality.” Unfortunately, this “need to distinguish and clarify . . . inclines us to turn away from anything too complex to be easily and clearly conceptualized; and that which we are inclined not to see and not to look at is something we are naturally inclined to deny” (Durkheim 1961, p. 253). Most important, for Durkheim, this recognition that society was real, complex, and concrete was an essential requirement, not simply of the science of ethics, but of ethics itself. For if complex social wholes could be reduced to their constituent parts, then only the individual would be real and society would be merely an idea,

<sup>60</sup> See, e.g., Gellner's section, “Descartes *versus* Durkheim” (1992, pp. 38–40). I am grateful to an *AJS* referee for bringing my attention to Gellner's work. On the implicit assumptions of Descartes's project, see also Jacob (1988, pp. 43–72).

<sup>61</sup> For these earlier methodological arguments, see Jones (1977); for a more detailed discussion of the 1887 essays on German philosophy and social science, see Jones (1993).

<sup>62</sup> It is in this context that one of Durkheim's most famous utterances—“les faits sociaux doivent être étudiés comme des choses”—should be understood.

and an idea, Durkheim quickly added, can never be the object of our moral allegiance (Durkheim 1961, p. 257). In sum, Durkheim's preemptive goal was to establish and maintain a societal ideal worthy of the veneration of future generations of the Third French Republic; and for this purpose, the language of real and concrete social facts was far more useful than the more traditional vocabulary of clear and distinct ideas.

In one sense, of course, Durkheim always remained a rationalist;<sup>63</sup> and in a quite different sense, he insisted that, being French, he could scarcely be anything else.<sup>64</sup> Like Montesquieu, however, he understood the attractions of a more inductive, empiricist vocabulary, and he was bold enough to explore its limits and implications. Their deference to Descartes notwithstanding, Montesquieu's works are most interesting to us precisely where they are least Cartesian. Despairing over the deplorable state of French science, humiliated by the Franco-Prussian War, and inspired by what he had seen in Wundt's laboratory, Durkheim began a similar journey 150 years later.<sup>65</sup>

But—assuming that these were Durkheim's intentions—why should sociologists *care*? The answer to this question turns on what sociologists want from the history of sociological theory. One possibility, for example, is that they want what Richard Rorty (1984) has called “rational reconstructions” of what an ideally reasonable and retrospectively educable agent—for example, the Durkheim who might be brought to describe himself as having overstated the “objectivity” of social facts, the “normality” of crime, or the “pathology” of the forced division of labor—would have said if he had said the things he did not say. Having thus been brought to accept such a new description of what he meant or did, Durkheim would thus become one of us, “our contemporary, or our fellow-citizen, or a fellow-member of the same disciplinary matrix” (Rorty 1984, pp. 51–52; see also Jones and Kibbee 1993, p. 156). From

<sup>63</sup> Here I refer to the sense in which a “rationalist” is someone who believes that nothing in the nature of things is irreducibly irrational (see Durkheim 1925, pp. 214–15).

<sup>64</sup> Here I refer to the sense in which a “rationalist” is someone concerned with “clarity of thought,” something Durkheim took to be an “essential attribute” and even “national quality” of the French race, from which its “language” and “style” directly flowed (Durkheim 1938, p. 399).

<sup>65</sup> An astute referee has asked why, if this was Durkheim's intention, he was not attracted to the still more aggressively inductive methods of Frédéric Le Play. A part of the answer, as this referee points out, was surely political—i.e., the roots of Le Play's thought were rightist, Catholic, and aristocratic, as Durkheim clearly understood (see Lepenies 1988, pp. 82–83). But another part of the answer may be found in Le Play's methods themselves, which, although inductive, were designed more as rhetorical strategies than as scientific proofs. The paradox of this “monographic method,” Pitts (1968, p. 88) thus observes, is that it was “the invention of an anti-empiricist.”



the standpoint of historicists like Skinner and me, of course, such an ideal, retrospectively educable Durkheim will appear both anachronistic and controversial, yielding as many "Durkheims" as there are contemporary theorists (see esp. Jones 1977, pp. 279–82). But so long as rational reconstructions are conducted in full knowledge of this anachronistic, multiplicative effect, Rorty insists, they are unobjectionable; and their rewards are undeniable—that is, the assurance that "there has been rational progress in the course of recorded history," and that "we differ from our ancestors on grounds which our ancestors could be led to accept" (Rorty 1984, pp. 51, 54; see also Jones and Kibbee 1993, p. 156).

But there are quite different—and equally invaluable—rewards to be gained from what Rorty calls "*historical* reconstructions." These are the detailed, contextual reconstructions of past sociological theorists, in their own terms rather than ours, called for not only by me but by writers like Quentin Skinner and Charles Camic (see Camic 1979, 1992). Far from self-assurance, the point of historical reconstructions is "self-awareness"—that is, the realization that there have been forms of intellectual life *different* from our own. The value of such reconstructions, Skinner argues, "may lie in the fact that, instead of supplying us with our usual and carefully contrived pleasures of recognition, they enable us to stand back from our own beliefs and the concepts we use to express them, perhaps forcing us to reconsider, to recast or even . . . to abandon some of our current beliefs in the light of these wider perspectives" (1984, pp. 202, 197–98; see also Jones and Kibbee 1993, p. 156n.12).

My discussion of Durkheim and Montesquieu as ambivalent Cartesians is of course an attempt at *historical*—in contrast to *rational*—reconstruction. So in what sense does it help sociologists to become more "self-aware"? First, my suggestion that Durkheim's most famous methodological injunction was an extension of his political program—that is, that his effort to establish sociology as a science was subsidiary to his search for an ideal worthy of the veneration of the "new man" of the Third French Republic—adds a perspective long absent from histories of the sociology that feature the inexorable progress of the "scientific method" against the mere "background" of social and political context. Second, my emphasis on the linguistic nature of Durkheim's project—that is, his attempt to find a normative vocabulary adequate to the needs of the Third Republic—strongly supports Rorty's insistence that we see sociological theory, not as a series of empirically testable hypotheses that somehow "correspond" with the real social world, but rather as a collection of disparate vocabularies, coexistent and successive, that work for better or worse to satisfy our own needs and purposes.

In the absence of such historical reconstructions, and the self-awareness they alone can provide, I believe that sociological theory has

been twice mistaken. First, it has ignored the deeply moral (in contrast to narrowly methodological) dimension of Durkheim's insistence that we treat social facts *comme des choses*; and second, having done so, sociological theory has misconceived its own nature and purpose, which is less to test scientific hypotheses than to interpret other people to us and thus to broaden and deepen "our sense of community and the possibilities open to this community" (Rorty 1982, pp. 203–4; see also Jones and Kibbee 1993, p. 168).

# REFERENCES

- Aristotle. 1962. *The Politics*, translated with an introduction by T. A. Sinclair. Baltimore: Penguin.
- Bagehot, Walter. 1872. *Physics and Politics*. London: N.p.
- Barckhausen, H. (1904). 1970. *Montesquieu: L'Esprit des lois et les archives de la Brède*. Geneva: Slatkine Reprints.
- . 1907. *Montesquieu: Ses idées et ses oeuvres d'après les papiers de la Brède*. Paris: Hachette.
- Berlin, Isaiah. 1980. "Montesquieu." Pp. 130–61 in *Against the Current: Essays in the History of Ideas*, by Isaiah Berlin. Edited and with a bibliography by Henry Hardy and an introduction by Roger Hausheer. New York: Viking.
- Boutroux, Émile. (1874) 1916. *The Contingency of the Laws of Nature*, translated by Fred Rothwell. Chicago: Open Court.
- . (1892) 1914. *Natural Law in Science and Philosophy*, translated by Fred Rothwell. New York: Macmillan.
- Camic, Charles. 1979. "The Utilitarians Revisited." *American Journal of Sociology* 85:516–50.
- . 1992. "Reputation and Predecessor Selection: Talcott Parsons and the Institutionalists." *American Sociological Review* 57 (4): 421–45.
- Davy, Georges. 1960. "Durkheim, Montesquieu and Rousseau." Pp. 144–54 in *Montesquieu and Rousseau: Forerunners of Sociology*. Translated by R. Manheim with a foreword by Henri Peyre. Ann Arbor: University of Michigan Press.
- Descartes, René. 1985. *The Philosophical Writings of Descartes*, vol. 1. Translated by J. Cottingham, R. Stoothoff, and D. Murdoch. Cambridge: Cambridge University Press.
- Digeon, Claude. 1959. *La Crise allemande de la pensée française (1870–1914)*. Paris: Presses Universitaires de France.
- Durkheim, Émile. 1885a. "Gumpłowicz, Ludwig, *Grundriss der Soziologie*." *Revue Philosophique* 20:627–34.
- . 1885b. "Fouillée, A., *La Propriété sociale et la démocratie*." *Revue Philosophique* 19:446–53.
- . 1885c. "Schäffle, A., *Bau und Leben des sozialen Körpers*." *Revue Philosophique* 19:84–101.
- . 1886. "Les Études de science sociale." *Revue Philosophique* 22:61–80.
- . 1887a. "La Philosophie dans les universités allemandes." *Revue Internationale de l'Enseignement* 13:313–38, 423–40.
- . 1887b. "La Science positive de la morale en Allemagne." *Revue Philosophique* 24:33–58, 113–42, 275–84.
- . 1888. "Cours de science sociale: Leçon d'ouverture." *Revue Internationale de l'Enseignement* 15:23–48.

- . 1892. *Quid Secundatus Politicae Scientiae Instituendae Contulerit*. Bordeaux: Gounouilhau.
- . 1907. "Lettres au directeur de la *Revue Néo-scholastique*." *Revue Néo-scholastique* 14:606–7, 612–14.
- . 1912. *Les Formes élémentaires de la vie religieuse*. Paris: Alcan.
- . 1925. *L'Éducation morale*. Foreword by Paul Fauconnet. Paris: Alcan.
- . 1937. "Montesquieu: Sa part dans la fondation des sciences politiques et de la science des sociétés." Translated from the Latin by F. Alengry. *Revue d'Histoire Politique et Constitutionnelle* 1:405–63.
- . 1938. *L'Évolution pédagogique en France*. Introduction by M. Halbwachs. Paris: Alcan.
- . 1953. *Montesquieu et Rousseau: Précurseurs de la sociologie*. Translated with a foreword by Armand Cuvillier with an introduction by G. Davy. Paris: Marcel Rivière.
- . 1960. "Montesquieu's Contribution to the Rise of Social Science." Pp. 1–64 in *Montesquieu and Rousseau: Forerunners of Sociology*. Translated by R. Manheim with a foreword by H. Peyre. Ann Arbor: University of Michigan Press.
- . 1961. *Moral Education: A Study in the Theory and Application of the Sociology of Education*. New York: Free Press.
- . 1977. *The Evolution of Educational Thought: Lectures on the Formation and Development of Secondary Education in France*. London: Routledge & Kegan Paul.
- . 1984. *The Division of Labor in Society*. Translated by W. D. Halls with an introduction by Lewis A. Coser. London: Macmillan.
- Durkheim, Émile, and Marcel Mauss. 1903. "De quelques formes primitives de classification: Contribution à l'étude des représentations collectives." *L'Année Sociologique* 6:1–72.
- Espinas, Alfred Victor. 1877. *Des sociétés animales: Étude de psychologie comparée*. Paris: Aican.
- Fouillée, Alfred. 1880. *La Science sociale contemporaine*. Paris: Hachette.
- Gellner, Ernest. 1992. *Reason and Culture: The Historic Role of Rationality and Rationalism*. Oxford: Blackwell.
- Gilpin, Robert. 1968. *France in the Age of the Scientific State*. Princeton, N.J.: Princeton University Press.
- Hullington, Mark. 1976. *Montesquieu and the Old Regime*. Berkeley: University of California Press.
- Hume, David. 1975. *Enquiries Concerning Human Understanding and Concerning the Principles of Morals*. Oxford: Clarendon Press.
- Jacob, Margaret C. 1988. *The Cultural Meaning of the Scientific Revolution*. New York: Knopf.
- Jones, Robert Alun. 1977. "On Understanding a Sociological Classic." *American Journal of Sociology* 83:279–319.
- . 1990. "Religion and Realism: Some Reflections on Durkheim's *L'Évolution Pédagogique en France*." *Archives de Sciences Sociales des Religions* 69:69–89.
- . 1993. "La Science positive de la morale en France: Les sources allemandes de la *De la division du travail social*." Pp. 11–41 in *Division du travail et lien social: La thèse de Durkheim un siècle après*, edited by P. Besnard, M. Borlandi, and W. P. Vogt. Paris: Presses Universitaires de France.
- Jones, Robert Alun, and Douglas Kibbee. 1993. "Durkheim, Language, and History: A Pragmatist Perspective." *Sociological Theory* 11, no. 2 (July): 152–70.
- Lanson, G. 1932. *Montesquieu*. Paris: Alcan.
- Lepenies, Wolf. 1988. *Between Literature and Science: The Rise of Sociology*. Translated by R. J. Hollingdale. Cambridge: Cambridge University Press.
- Levin, Lawrence Meyer. 1936. *The Political Doctrine of Montesquieu's Esprit des Lois: Its Classical Background*. New York: N.p.

- Lukes, Steven. 1973. *Émile Durkheim, His Life and Work: A Historical and Critical Study*. Harmondsworth: Penguin.
- Mestrovic, Stjepan. 1988. *Émile Durkheim and the Reformation of Sociology*. Totowa, N.J.: Rowman & Littlefield.
- . 1991. *The Coming of Fin de Siècle: An Application of Durkheim's Sociology to Modernity and Postmodernism*. London: Routledge.
- Momigliano, Arnaldo. 1977. "The Ancient City of Fustel de Coulanges." Pp. 325–43 in *Essays in Ancient and Modern Historiography*, by A. Momigliano. Middletown, Conn.: Wesleyan University Press.
- Montesquieu, Baron de. (1721) 1973. *Persian Letters*, translated with an introduction and notes by C. J. Betts. Harmondsworth: Penguin.
- . (1748) 1949. *The Spirit of the Laws*. Translated by Thomas Nugent with an introduction by Franz Neumann. New York: Hafner.
- . 1750. *Defense de l'esprit des lois et éclaircissements*. Paris: N.p.
- . 1965. *Considerations on the Causes of the Greatness of the Romans and Their Decline*. Translated, with notes and an introduction, by David Lowenthal. New York: Free Press.
- Neumann, Franz. 1949. Introduction to Montesquieu's *The Spirit of the Laws*. New York: Hafner.
- Peyre, Henri. 1960. Foreword to *Montesquieu and Rousseau: Forerunners of Sociology*. Ann Arbor: University of Michigan Press.
- Renan, Ernest. 1872. *La Réforme intellectuelle et morale*. Paris: Calmann-Lévy.
- Ribot, Théodule. 1876. "La Psychologie ethnographique en Allemagne." *Revue Philosophique* 2:596–607.
- Ribot, Théodule. 1885. *La Psychologie allemande contemporaine*, 2d ed. Paris: Alcan.
- Richter, Melvin. 1968. "Montesquieu." Pp. 467–76 in *The International Encyclopedia of the Social Sciences*, vol. 10. Edited by D. Sills. New York: Macmillan and the Free Press.
- Rorty, Richard. 1979. *Philosophy and the Mirror of Nature*. Princeton, N.J.: Princeton University Press.
- . 1982. "Method, Social Science, and Social Hope." Pp. 191–210 in *The Consequences of Pragmatism*, edited by R. Rorty. Minneapolis: University of Minnesota Press.
- . 1984. "The Historiography of Philosophy: Four Genres." Pp. 49–75 in *Philosophy in History*, edited by R. Rorty, J. Schneewind, and Quentin Skinner. Cambridge: Cambridge University Press.
- Sabine, George. 1937. *A History of Political Theory*. New York: Henry Holt & Co.
- Skinner, Quentin. 1969. "Meaning and Understanding in the History of Ideas." *History and Theory* 8:3–53.
- . 1984. "The Idea of Negative Liberty: Philosophical and Historical Perspectives." Pp. 193–221 in *Philosophy in History*, edited by Richard Rorty, J. B. Schneewind, and Quentin Skinner. Cambridge: Cambridge University Press.
- Spencer, Herbert. 1873–81. *Descriptive Sociology*. London: Macmillan.
- . 1876. *The Principles of Sociology*, vol. 1. London: Macmillan.
- Thompson, James Westfall. 1942. *A History of Historical Writing*. Vol. 2: *The Eighteenth and Nineteenth Centuries*. New York: Macmillan.
- Tönnies, Ferdinand. 1887. *Gemeinschaft und Gesellschaft*. Leipzig: Fues.
- Zeldin, Theodore. 1977. *France, 1848–1945*. Vol. 2: *Intellect, Taste and Anxiety*. Oxford: Clarendon.

# The First Shall Be Last? Entrepreneurship and Communist Cadres in the Transition from Socialism<sup>1</sup>

Ákos Róna-Tas

*University of California, San Diego*

This article reviews the sociological literature on the transition from socialism to capitalism. It distinguishes between the erosion and transition phases and between traditional and corporate segments in the emerging private sector. Panel survey data from Hungary show that during the transition ex-communist cadres maintain their advantageous position and do especially well in the more dynamic corporate segment. They are successful because human capital is important in both capitalism and socialism and because the cadres are able to convert past political power to economic advantage. Contrary to the findings of studies based only on agriculture, the transition increases income inequalities.

The transition from a socialist to a capitalist economy is a large-scale transformation engineered from above, in which socialist countries move their bureaucratically coordinated economies toward a market model. This transition requires a profound change in property relations and a new set of economic institutions to form a private sector. In turn, these changes create a new economic elite and redistribute property and material well-being. In this process, some people gain wealth, others lose it; some see their incomes grow, while others see a marked deterioration in their earning power.

<sup>1</sup> This article would not have been possible without the generosity of Tamás Kolosi, who provided the survey data and gave advice and many suggestions in the course of writing this article. The paper also benefited from insights and criticism from József Böröcz, Juan Diez Medrano, Barbara Geddes, Martha Lampland, Ferenc Moksony, Victor Nee, Victor Perez Diaz, James Rauch, Susan Shirk, Joel Sobel, Ivan Szelényi, Szonja Szelényi, Carlos Waisman, Andrew Walder, David Wank, Gergely Zimányi, and the *AJS* reviewers. An earlier version of this paper was presented at the annual conference of the American Sociological Association in 1993. A large part of the work was completed while the author was a fellow at the Juan March Institute for Advanced Studies in the Social Sciences in Madrid. Correspondence may be addressed to Ákos Róna-Tas, Department of Sociology, University of California, San Diego, 9500 Gilman Drive, La Jolla, California 92093.

© 1994 by The University of Chicago. All rights reserved.  
0002-9602/95/10001-0002\$01.50

This article discusses and critiques the growing literature on the social consequences of the transition from socialism. It develops the distinction between the *erosion* of socialism, when only traditional small-scale private enterprise can exist, and the *transition* from socialism, which brings the novelty of modern private corporate entrepreneurship. I use panel survey data from Hungary to investigate two related but analytically distinct issues, the recruitment of entrepreneurs in the private sector and the distributional consequences of the transition. The evidence suggests that, while the transition often disposed of the top layers of the old political elite in a spectacular manner, communist cadres have not lost their advantageous economic positions in the process. Cadres quickly took advantage of the new corporate segment of the private sector as entrepreneurs. This development has increased income inequality, as those who had more initially gained more than those who started out with less.

### THEORIES OF TRANSITION FROM SOCIALISM

#### The Changing Elite Thesis

In the sociological literature, researchers draw two contradictory conclusions about who will take advantage of the new market institutions, who will benefit most from them, and as a consequence, how this institutional change will transform the social structure of postcommunist societies. One part of the literature suggests that the main beneficiaries of the transition will be those who were in less privileged positions when the transition began. Those who propose that the transition results in a major change in the economic elite expect a new group of people to emerge as a class of new entrepreneurs, a high turnover at the top, and, as new advantages accrue to previously underprivileged groups, at least an initial decrease in social inequalities.

Szelényi (1988) offers a historical argument predicting the circulation of economic elites (see also Szelényi and Szelényi 1990). His interrupted embourgeoisement theory for Eastern Europe is supported by an extensive study of household farming in Hungary. Szelényi found that the amount of land held by the head of household or his parents before the communist takeover had a positive association with the income the household produced on its private plot in 1980 (Szelényi 1988, pp. 129–34). People most active in private farming, legalized and supported by the communist state in Hungary from the early 1960s, were those whose families were already acquainted with market production in the mid-1940s and who could draw on precommunist memories or a “habitus” (Bourdieu 1977, pp. 72–95) of market culture transmitted by their families (Kovách 1988). He concludes that the emerging market in agriculture

is a continuation of a long-term historical trend, interrupted by the communist experiment.

Having had large- or even moderate-sized landholdings was a serious liability in the first decade of communism, and the life chances of better-off peasants, or kulaks, and their children were seriously impaired by policies of collectivization. Thus, household farming in the 1980s seemed to be a consolation prize for the middle- and large-holding peasantry mistreated in the early years of communism. Szelényi (1988) shows that the few who became cadres despite their background were less likely to participate in market-oriented private farming. Szelényi's theory thus predicts that a new economic elite will emerge from below, from a group whose historical ascendance was aggressively interrupted by four decades of socialism and which will now reclaim its elite position from communist cadres (see also Konrád and Szelényi 1991, pp. 348–49). While Szelényi restricts his empirical analysis to private household farming, he extends his theory of embourgeoisement to activities beyond agricultural small production (1988, pp. 53–54).

One of the curious findings of Szelényi's work is that, while cadres were less likely to engage in household farming, once they had decided to do it the value of their production was higher than that of other farmers (1988, p. 131). Moreover, focusing only on producers engaged in very intensive market production, he found that cadres had an advantage in entering that group and also received a positive return within that group for being a cadre (p. 145).

Observing private family farms in China in the 1980s, Nee (1989, 1991) offers a theory of structural compensation to explain the market transition. He formulates his theory in three theses: (1) the market power thesis postulates that, with the emergence of the market, central distributors will lose power and direct producers will have more discretion over the terms of exchange of their goods and services; (2) the market incentive thesis claims that there are greater incentives for individual effort in market transactions than in the socialist sector, which will result in higher returns on education; finally, (3) the market opportunity thesis maintains that reforms in the direction of marketization will create new avenues for mobility and will provide an alternative to bureaucratic advancement (1989, pp. 666–67; see also Jenkins 1990). Nee asserts that “the more complete the shift to market coordination, the less likely that economic transactions will be embedded in networks dominated by cadres, and the more likely power—control over resources—will be located in market institutions and in social networks . . . of private buyers and sellers” (1989, p. 568).

Nee derives several hypotheses, one of which predicts that “not only are the direct controllers of the redistributive mechanism likely to experi-

ence a relative loss, but the value of their political capital accumulated through prior experience as cadre is likely to diminish as well" (1989, p. 671). Cadres are relatively disadvantaged, as they have "little or no net advantage in entering into private entrepreneurship" (1989, p. 671). Nee presents evidence through survey data for Chinese households from Fujian province. Although he admits that political power seems to have utility for entrepreneurs, he claims that his data support all his hypotheses.

In a later article Nee (1991) extends his theory of change in the structure of power, incentives, and opportunities to include its implications about change in the structure of outcomes. Nee's underlying argument is that, as previously less advantaged groups benefit from the transition, inequalities should not increase. His market transition theory and its extension to economic inequalities rely on the assumptions of compensating advantages and of structural determination.

The assumption of compensating advantages argues that the formal mode of economic coordination—bureaucratic or market—determines the distribution of income across positions. Bureaucratic coordination will favor one set of positions by rewarding them highly, while market coordination will favor another set the same way; these two sets are mutually exclusive, an assumption implicit in Széleányi's interrupted *embourgeoisement* theory as well. Thus, certain positions not preferred by bureaucratic coordination will be better compensated in the market (see also Manchin and Széleányi 1987).

The assumption of structural determination contends that individuals and households can be fully described by the positions that the system of coordination allocates for them. A change in the form of coordination will result in a change in the remuneration of positions, because the transition means the introduction of a new economic principle with its own exclusive set of preferred positions, none of which had been preferred up until then. Changing the remuneration of positions, in turn, means changing the remuneration of individuals and households, as no one can slip out of his or her own position. It follows that income inequality among individuals and households has to decline, at least initially, because equality increases if those who were worse off before experience gains.<sup>2</sup> Nee (1991) proceeds to show that since the beginning of the transition to a market economy in China, income inequalities have not increased, as previous literature on developing market economies suggested.

<sup>2</sup> Obviously, the equalizing tendency of giving to the poor (people below the middle of the income distribution) works only up to a point, i.e., until the poor rise above the middle by the same amount they were under it. If the poor become even richer, inequalities can increase.



Restating his theory, Nee admits the importance of the existence of the cadre-entrepreneur, but he claims that it is a result of the partial nature of the reform and thus does not contradict his theory (1991, p. 269). Nee's revised stance on the cadre-entrepreneur runs the risk that his theory becomes immune to falsification. His claim that his theory should not be tested against a partial reform raises the question of whether it is possible to talk about market *transition* unless reforms are still incomplete. Without further specification, any finding will support Nee's theory. Nee's data (1989, 1991) are less than convincing on several counts. Household income is not a good measure of inequality, since it is heavily dependent on the number of earners in the household and thus also reflects inequalities in household composition. Household income per capita or household income per earner would have been more appropriate. Furthermore, Nee's data on household income are reported retrospectively. It is difficult to believe that accurate data on peasant household incomes can be gathered 10 years after the fact.<sup>3</sup> If we discount his income figures for 1975 and accept those from 1980 and 1984, we see a small increase in inequalities (see also Riskin 1987).

Moreover, no sociological theory of transition from socialism to capitalism can rely entirely on experiences of agricultural petty commodity production. While both Széleányi (1988) and Nee (1989, 1991) build their cases on household farming, the relevance of household farming should be seen in the context of industrialized societies, where private farming is only one form of entrepreneurship.

### The Surviving Elite Thesis

In clear contradiction to the changing elite thesis, a second and rapidly growing part of the literature observes that the primary beneficiary of marketization is the old elite (Grossman 1989; Oi 1989; Shirk 1989, p. 340; Stark 1990, p. 389; Ren 1990, p. 141; Prybyla 1991; Staniszkis 1991, pp. 38–52; Kolosi 1991; Alexeev and Gaddy 1991; Burawoy and Krotov 1992, p. 34; McAuley 1992; Wank 1992; Róna-Tas 1995). Even Széleányi, implicitly contradicting his theory of embourgeoisement, calls attention to the socialist cadres' ability to adapt to market institutions (Széleányi 1986–87). Two sets of arguments have been proposed for the survival of the old elite.

The argument of technocratic continuity contends that socialism devel-

<sup>3</sup> Adding random recall error for income figures for 1975 would increase measured inequalities in that year, because the variance of incomes would increase by the variance of the recall error. Calculating from that inflated base would underestimate the increase in inequality.

oped a technocratic cadre that can maintain its position through its acquired expertise (Szalai 1990, p. 182). This pragmatic new elite was also instrumental, at least in the case of Hungary, in bringing about the transition. Comparative studies of stratification show convincingly that education plays an important role in status allocation in both socialist and market systems (Connor 1979; Matras 1980; Simkus 1981; Zagórski et al. 1984; Haller and Mach 1984; Haller, Kolosi, and Róbert 1990; Blau and Ruan 1990; Treiman and Ganzeboom 1990). Under socialism, by the 1980s cadreship was strongly tied to education (Wasilewski 1985; Szelényi 1987; Li and Bachman 1989; Wasilewski 1990; Li and White 1990), and while in the early years party membership enabled some to receive a tertiary education, in recent decades most people joined the party to promote their careers after finishing their formal education. Disputing the assumption of compensating advantages, this argument claims that there is a common meritocratic-technocratic character of both party and entrepreneurial recruitment that is the main source of continuity. While one would expect shifts among the values of different types of education during the transition, as a whole, people with more education will do better in the newly forming market sector than those with less, and thus cadres will be in an advantageous position.

The argument of power conversion offers a different proposition. While it agrees that the new elite will differ little from the old one, it suggests another process. The power conversion thesis contends that power accumulated during state socialism is converted into assets of high value in a market economy. Staniszkis puts forth the concept of "political capitalism" to describe the direct conversion of communist political power into economic might (1991, p. 46). She argues that, in the process of the transition to a market economy, strategically located cadres can take advantage of their positions in acquiring state property. Through informal channels, exploiting the uncertainties of the transition, cadres can turn their limited control of state property into quasi or real ownership.

According to this argument, cadres are at an advantage not just in setting up but also in operating companies, because they can use their personal networks to get access to valuable business information and even to credit. The importance of personal ties in socialist economies, both within and outside the state sector, is amply documented (Sampson 1986; Lampland 1987; Grossman 1977; Márkus 1981; Simis 1982; Nove 1983, p. 78; Walder 1986, p. 181; Róna-Tas 1990, pp. 117–20; Major 1992, p. 83; Böröcz 1993a), but they assume special importance during the transition (Böröcz 1993b; Hankiss 1990, p. 255; Prybyla 1991, p. 16).

Both horizontal and vertical ties are important in postcommunist economies. Socialist economies leave behind a poor system of gathering and disseminating economic information, because under socialism informa-

tion flow was channeled through the center and horizontal flows were weak (Kornai 1989, p. 38; 1992, pp. 127–30). In the developing market, information about prices, demand, or the availability of goods is still very costly to obtain, thus brokering between market segments is one of the most lucrative businesses (Staniszki 1991, p. 39; McAuley 1992, p. 98). Much precious information is carried through horizontal channels of personal connections during the transition (Oi 1989, p. 213; Wank 1992; Róna-Tas 1991). Cadres obtained a wide network of connections through the party organization, and these connections survive even after the party formally ceased to exist.

Vertical ties are equally important. All forms of vast institutional changes generate additional uncertainties, because new rules, the details of their implementation, and their unintended consequences are difficult to anticipate (Bunce and Csanády 1993). About one-third of the companies in Hungary are now engaged in what official statistics label as “real estate, rental, and services assisting business activities.” Having connections in the state apparatus or local administration can provide early knowledge of new laws and regulations and of the unwritten rules of their interpretation. Since the personnel of ministries and local governments changes only at the top levels and many of the low- and middle-level administrators stay in place, cadres still have privileged access to individuals in the political bureaucracy.

Having the kind of connections ex-cadres have is not a necessary prerequisite for prospering in all forms of enterprise. Running a local shoe-repair store or even a chicken farm requires certain connections but not necessarily with officials in ministries, banks, or the top echelons of state firms. Artisans or household farmers might need this type of connection occasionally, but these can be found through friends of friends. On the other hand, starting and subsequently successfully operating an import-export business or a manufacturing plant requires connections in high places, which cadres are more likely to have.

The technocratic continuity argument contests the assumption of compensating advantages. It maintains that socialism and capitalism prefer a set of common, highly skilled, technocratic positions. The power conversion thesis disputes the assumption of structural determination. Individuals are not playthings of formal institutions; rather, they are adept at finding their way around them.

In summary, the four arguments offer contradictory suggestions on who becomes an entrepreneur and who will thrive as an entrepreneur. Thus, they must arrive at different conclusions about the distributional consequences of the transition (table 1). On the issue of recruitment, Szelényi's (1988) interrupted embourgeoisement theory and Nee's (1989, 1991) theory of structural compensation suggest that cadres will not be

## Transition from Socialism

TABLE 1

### DISTRIBUTIONAL CONSEQUENCES OF THE TRANSITION FROM SOCIALISM TO CAPITALISM

Theory/Thesis	Who Has the Advantage in Becoming an Entrepreneur	Who Will Prosper as an Entrepreneur	Key to Recruitment and Success	What Happens to Inequality
Structural compensation .....	Noncadres	Noncadres	Education	Does not change
Interrupted embourgeoisement .....	Noncadres	Cadres (?)	Family background	...
Power conversion .....	Cadres	Cadres	Cadre position	Increases
Technocratic continuity .....	Cadres	Cadres	Education	Increases

the new entrepreneurs. The theses of technocratic continuity and power conversion predict the opposite, though the two describe different recruitment processes. As to who will benefit most from private enterprise, Nee (1989) proposes in his market incentive thesis that people with high education will prosper more and that cadres as entrepreneurs will enjoy no advantage; the technocratic continuity thesis agrees. Széleányi's data suggest that cadres, once they start a business, will receive a return on their cadreship; the power conversion thesis makes the same suggestion and describes the process of informalization through which the ghost of the defunct party organization can still influence outcomes. Finally, according to the theory of structural compensation, inequalities will not grow. In contrast, the corollary of both the technocratic continuity and power conversion arguments claiming the survival of the old elite is an increase in inequalities.

### Erosion from Below versus Transition from Above

I propose to distinguish between the erosion of the socialist economy and the transition to a market. While the erosion is initiated primarily from below by self-interested individuals pursuing private gain, the transition is initiated primarily from above, through decisive legislative action with the explicit purpose of creating a market economy. During the erosion, the socialist state either fights the private sector or makes concessions it considers temporary. The transition to a market economy begins when the state makes a credible commitment to create the legal institutions of a market economy (North 1993), institutions that are intended to be permanent, that guarantee secure property rights, and that do not discriminate against the private sector. I will argue that the changing elite

theses capture an earlier period: the period of the erosion of the socialist economy.<sup>4</sup> The surviving elite arguments describe a later point: the actual transition.

In all socialist economies a small private sector—often referred to as the “second economy” (Grossman 1977; Kemény 1982; Galasi 1985; Los 1990)—always exists, but it is suppressed and severely restricted. It is limited to being small, labor intensive, and often informal and is confined to a local market of households. These restrictions decrease the barriers of entry, as little capital is needed and as specialized skills are of little use because the confined market and small size limit the division of labor. Moreover, these restrictions reduce the incentives for those best off in the socialist sector to participate in the second economy.

In early stages of the erosion, the state tries to confine the private sector to the consumer economy (Aslund 1985, pp. 66, 169; Berend 1990, p. 189). Private entrepreneurs are restricted to selling goods and services to consumers and are forced to buy most of their raw material in the retail market (Kornai 1992, p. 507). By building a wall between the state and the private sectors, the state prevents the flow of material resources, labor, and skill between the two sectors of the economy (Gábor 1989, p. 340). The very purpose of this barrier is to prevent the elite of the socialist sector from defecting to the second economy and the elite of the private sector from buying its way into the socialist sector.

During the later phases of the erosion, some restrictions on the private sector are lifted or are enforced less vigorously. This loosening of restrictions creates new segments in the private sector with higher barriers to entry and greater incentives for those in the first economy to join in. Nevertheless, even under the boldest reforms many restrictions remain in place—most important, the prohibition of property flow from the socialist to the private sector, the limit on the number of employees, and the exclusion of the private sector from entire sections of the economy, such as health care, education, banking, wholesale, and foreign trade—and state and party officials are still explicitly, though not always successfully, barred from participating in the private economy.

The transition demolishes the wall between the private and the state sectors, and the private sector becomes an equal player in the economy. Now the private sector can engage in capital-intensive large-scale manufacturing, international trade, nationwide services, or big construction projects, all of which were the sole privilege of the socialist sector earlier.

<sup>4</sup> Atkinson and Micklewright (1992, pp. 122–33) show that there is a slight increase in inequalities already at the end of the 1980s in Poland and Hungary, the two countries where the erosion phase developed the furthest.

While during the period of erosion the private sector does not pose a direct threat to the jobs of cadres in the state sector, the transition forces cadres to swim or sink. Therefore, the further the economy moves away from socialism, the more likely we are to see cadres toiling in the private sector. Thus, contrary to Nee's claim, the incompleteness of market reforms is precisely what keeps cadres away from private enterprise.

During the transition, there are two private sectors. The first is a traditional sector, mostly the product of the erosion phase; the second is an expansive modern sector made possible by the privatization of state property and by new legal forms of entrepreneurship that allow private enterprises to accumulate capital (Staniszczis 1991, p. 47). Hungary was the country where the private sector developed the furthest in the erosion phase. Private farming and private consumer services became tolerated in the 1960s. This happened eventually in all socialist countries to some degree (Rumer 1981; O'Hearn 1981; Radio Free Europe 1984; Aslund 1985; Cochrane 1988; Ronnas 1989; Zubek 1991). Hungary, however, made another step in 1982, when private individuals were allowed to form small business partnerships and to make contracts with state firms. The 1982 law was not meant to be a first step in the transition to a market economy but a temporary measure to cope with some of the many problems faced by the socialist economy (Róna-Tas 1995). The lack of political commitment to a private sector was apparent from the many restrictions that were kept in place, such as limits on size, credit, and foreign trade, and from the forcing of these partnerships to operate with full liability.

In Hungary the transition to a market economy can be dated from January 1989, when the so-called Law on Economic Associations took effect. This law was introduced by the Hungarian Socialist Workers' Party (HSWP), which disintegrated by the end of that year, losing over 600,000 of its 700,000 members after its last congress in October. The new law laid the foundation for the privatization of the state sector, introduced private limited-liability companies, opened the Hungarian economy to foreign investment, and declared the principle of "sector neutrality," lifting all discrimination against the private sector, including limitations on size and area of activity. The caretaker government, which managed the economy in the power vacuum preceding and ensuing the final demise of the HSWP, began the implementation of the Law on Economic Associations. However, the creation of a coherent legal system to underpin a market economy was left to the noncommunist leadership that took power in the spring of 1990.

The most important institutions of a market economy were put into place between 1989 and 1991. These included a deregulated price system,

TABLE 2  
INDICATORS OF THE GROWTH OF THE MARKET SECTOR

	1980	1985	1988	1991	1992
Corporate enterprises:					
Limited-liability companies, joint-stock companies, and joint ventures .....	NA	370	919	42,695	59,363
Limited liability companies only .....	...	...	450	41,204	57,262
Noncorporate enterprises:					
Business partnerships .....	NA	34,926	33,821	52,136	70,597
Sole proprietor enterprises ...	113,000	170,000	211,536	317,218	...

SOURCE.—Data on sole proprietor enterprises for 1980–88 are from Central Statistical Office (1984, pp. 187, 214; 1986, pp. 177, 208; 1989, pp. 173, 204; for 1992 HVG (1993, p. 83). Data on other organizations are from Baló and Lipovecz (1989, p. 774; 1993, p. 509).

a capital market for private and institutional investors, and a decentralized banking and insurance system. Between the end of 1988 and 1991, the size of the private sector increased considerably (table 2).

In 1991 the Hungarian private sector therefore had three different segments—private farming, noncorporate enterprise, and corporate enterprise or limited-liability companies—reflecting to some extent the history of the erosion and the subsequent transition to a market economy. The three different types of entrepreneurship show different patterns of recruitment and of success and have different effects on the income hierarchy. The first one, private farming, is the creation of the early erosion of socialism. With the onset of the transition, private farming is undergoing transformation, but since the privatization of land and the dissolution of agricultural cooperatives are still in progress, I can say little about those changes. The bulk of private farming is still small scale, labor intensive, and built on family labor.

The second form of entrepreneurship, noncorporate (*nem jogi személyiségű*) enterprise, in the forms of sole proprietorships and business partnerships, is partly also the product of the erosion of socialism. The vast majority of people in this category are sole-proprietor-business owners such as artisans, small tradespeople, and self-employed intellectuals. Most forms of these noncorporate, individual businesses were tolerated from the early years of communism, but they were granted new rights during the transition. There are also different forms of noncorporate partnerships, such as work partnerships (*gazdasági munkaközösség*), deposit associations (*betéti társaság*), and civil-law associations (*polgári jogi társaság*). Partnerships were first accepted in 1982. Most partnerships

are composed of self-employed individuals with few employees and little capital. Most partnerships that wanted to expand transformed themselves into limited-liability companies. Between 1989 and 1991, the number of most types of partnerships, except deposit associations, declined. These deposit associations allowed people to take advantage of the tax code without having to put down start-up capital.

Finally, the third type of entrepreneurship is corporate (*jogi személyiségű*) private business, which became possible only when the transition introduced limited-liability companies in the private sector. To register a limited-liability company, one had to put up a minimum of one million Hungarian forints (HUFs), worth over \$13,000 in 1991, as security.

Not all limited-liability companies are private; many are either fully or partially state owned. Between the summer of 1989, after the Law on Enterprise Transformation was declared, and the spring of 1990, about 100 state firms took advantage of a loophole in new regulations and split their operations into dozens of subunits designed to be limited-liability companies (Stark 1990, 1992; Böröcz 1993b). The center of the firm then acted as a holding company that held majority ownership rights over these units in principle but often was little more than an empty shell. The actual control rested with the management of these newly formed companies, who often acquired some of the shares and became minority owners as well. The legal loophole was closed in the spring of 1990, when the State Property Agency was created. State firms are still forming limited-liability companies, but these can be given into private hands only through the State Property Agency.

These spin-offs constituted a small but important segment of the newly emerging limited-liability companies, comprising not more than 10%–30% of all such companies at the time (Kocsis 1992). The majority of private limited-liability companies were founded by individuals or private groups to take advantage of the new opportunities provided by the privatization process to buy machines or buildings from state firms and by the liberalization of domestic and foreign trade to sell goods and services. In 1991, of the top 3,000 firms (by sales) that were in partial or full private ownership, only a small fraction were noncorporate enterprises, while the majority were limited-liability companies (table 3).

## DATA AND METHODS

The data in the analysis were acquired from a sample of 1,000 people over age 18 interviewed in the spring of 1989 and then again in the spring of 1991. The sampling method was multistage cluster sampling. In the first stage, 112 of the 3,100 settlements in Hungary were selected in such a way that the population of the 112 settlements followed closely the



TABLE 3

DISTRIBUTION OF THE TOP 3,000 ECONOMIC UNITS  
IN 1991 THAT WERE PARTIALLY OR COMPLETELY  
OWNED BY NONSTATE INVESTORS\*

	% of Total Nonstate Enterprises
Corporate enterprises .....	97.4
Limited-liability companies .....	71.0
Joint-stock companies .....	19.9
Noncorporate enterprises .....	2.6

SOURCE.—Hungarian Central Statistical Office Data Base.

\* The hierarchy of economic units is measured by their gross annual sales.

distribution of the entire population of the country on 15 demographic characteristics. In the second stage, using residential registers, the proper number of individuals were drawn from each settlement so that the numbers reflected the national distribution of individuals by settlement type. This selection provided three samples of 1,000 respondents, and for each sample another 1,000 individuals were chosen to replace those who did not respond.

In the 1989 survey all three samples were interviewed. Of the 3,000 people, 162 (5.4%) refused, and 622 (20.7%) were unavailable for other reasons. These missing responses were replaced randomly from the supplementary pool of respondents, so that three groups of 1,000 interviews were completed. In the 1991 survey the first sample of 1,000 of the first wave was reinterviewed. From these, 715 people responded, and random substitutes were drawn from the second sample of 1,000 of the first wave to make up for the missing cases. After cleaning the data, the final sample size was 979.

To measure personal income (PINCOME89, PINCOME91), the interviewer asked separately for primary income, for secondary income from a second job, contracts, tips, household farming, and rental of an apartment, land, or equipment, and for profit from a business enterprise, then summed these figures. He also asked for the person's total taxable income. I used the larger of the two figures. To calculate the change in income between 1989 and 1991 (dINCOME), I subtracted income in 1989 from income in 1991. I also generated income quintiles for both years and from that created dummy variables to measure if a respondent stayed in the top quintile (STAYUP), moved up from the bottom quintile (BOTTOM1), or moved up from the bottom two quintiles (BOTTOM2) between 1989 and 1991.

The validity of self-reported income is always suspect. Previous studies of income reporting in Hungary show that income reported from state employment by the respondent is quite reliable. Income received from the private sector is generally underreported. According to estimates, about one-third of all nonstate incomes received are inaccessible through survey questionnaires (Ékes 1987; Kolosi and Róbert 1991). As the source of the underestimation is primarily income from the private sector, incomes of those participating in the private sector will be underestimated. This suggests that because the size of the private sector increased during that period, my data will underestimate the change in incomes.<sup>5</sup>

The three entrepreneurial strategies are measured as dummy variables. A respondent with income from household farming (HHF) was considered to have participated in this activity. Noncorporate entrepreneurship (NONCORP) is defined as being engaged in any form of noncorporate enterprise in 1991, such as being an artisan or small tradesperson, having a single-proprietor license to run a business in manufacturing or service, or being a member of a registered business partnership (work partnership, civil-law association, or deposit association). Unfortunately, the small sample size did not allow me to separate sole proprietorships from partnerships. A corporate entrepreneur (CORP) is an owner or co-owner of a limited-liability company.

A former cadre (CADRE) is a person who was both a member of the HSWP and held a position of authority at a low (AUTH89L), middle (AUTH89M) or high (AUTH89H) level in the spring of 1989 (i.e., CADRE is a binary variable coded as "1" if HSWP member with authority and "0" otherwise). The category of ex-cadre is thus based on a wider definition of the past elite. It includes not just the very top of the communist hierarchy—the so-called *nomenklatura*—but everyone who formally joined the HSWP and reached some position of power. By the mid-1980s in Hungary, party membership was required only for certain high positions. Thus, the category excludes many artists and professionals who belonged to the top layer of Hungarian society and reached important positions by the late 1980s without formally joining the party. Including them into the ex-cadre category would have overemphasized the continuity in the transition, since these people were quickly embraced by the new leadership.

<sup>5</sup> Incomes of private entrepreneurs will be considerably underestimated, because they can manipulate their business incomes in order to minimize their personal incomes and thus avoid income tax. For instance, successful entrepreneurs drive Western cars that should be counted as part of their personal incomes. Instead, these cars are acquired through leasing agreements and are counted as operating expenses.

Human capital is measured by the number of years of education the respondent completed by 1989 (EDUC).<sup>6</sup> The respondent's family background, tapping into childhood socialization, is measured by two dummy variables indicating whether the respondent's father was self-employed as either a private farmer or a nonagricultural entrepreneur (FPFARM, FSENTR).<sup>7</sup> These last two variables are intended to reveal any evidence of interrupted embourgeoisement.

The demographic background variables are age (AGE) and gender (GENDER; female = 1). These two variables are included as controls. Because gender is strongly correlated with both party membership and entrepreneurial involvement, I wanted to factor out its effect. Age is included to enhance the effect of parental background, as younger people are more likely to start a business but less likely to have parents who ran a private farm or business. Thus, age may act as a suppressor. Age is also related to education, as younger people are better educated. Table 4 lists the variables used in this study.

## FINDINGS

The most traditional form of entrepreneurship, household farming, gives no advantage to ex-cadres as shown in table 5. Household farming does not require an unusual amount of formal education. On the other hand, people whose fathers were independent farmers are more likely to follow this avenue. Though formal education does not increase one's likelihood to participate in household farming, knowledge transmitted through the family does. When gender and age are included, the analysis shows that men are more involved in household farming than women even though household farming is usually a family enterprise. This is because single women are less likely to farm than single men. Younger people are more likely to farm, and indeed the inclusion of age enhances the effect of parental background.

As table 6 indicates, former party cadres are more likely to become noncorporate entrepreneurs than others. However, the effect of having been a party cadre ceases to be significant once education is included in the analysis. Thus, cadres are more likely to start noncorporate businesses not because they are cadres but because they have human capital. Noncorporate entrepreneurship is not influenced by family background.

<sup>6</sup> I also carried out my analyses using dummy variables for elementary, secondary, and tertiary education to test if the effect of education is due to credentialing. However, that did not improve the fit in any of the models.

<sup>7</sup> I do not have the kind of detailed information on farming Szélenyi (1988) used to estimate the value of household production.

TABLE 4  
DESCRIPTION OF VARIABLES

Variable—Description	Coded Value	Univariate Distribution		N	
HHF—commercial household farming .....	Yes = 1	68		979	
NONCORP—noncorporate entrepreneur .....	Yes = 1	134		979	
CORP—corporate entrepreneur (limited-liability firms, etc.) .....	Yes = 1	55		979	
STAYUP—stayed in the top income quintile between 1989 and 1991 .....	Yes = 1	100		826	
BOTTOM1—moved out of the bottom income quintile between 1989 and 1991 .....	Yes = 1	97		826	
BOTTOM2—moved out of the bottom two income quintiles between 1989 and 1991 .....	Yes = 1	100		826	
CADRE—party member with some authority .....	Yes = 1	45		979	
AUTH89L—low-level authority .....	Yes = 1	53		979	
AUTH89M—middle-level authority .....	Yes = 1	47		979	
AUTH89H—high-level authority	Yes = 1	13		979	
FPFARM—father was a private farmer .....	Yes = 1	170		979	
FSENTR—father was a nonagricultural entrepreneur ...	Yes = 1	53		979	
FSEMP—father was self- employed either as a private farmer or a nonagricultural entrepreneur .....	Yes = 1	223		979	
GENDER .....	Female = 1	558		979	
	Mean	SD	Minimum	Maximum	N
EDUC—years of education completed .....	10.38	3.42	1	22	979
AGE .....	47.42	16.22	21	90	979
PINCOME89—personal income in 1989 in 1,000 Hungarian forints (HUFs) .....	6.64	3.68	1.70	30.00	878
PINCOME91—personal income in 1991 in 1,000 HUFs .....	10.58	7.08	5.00	82.00	881
dINCOME—change in nominal personal income between 1989 and 1991 .....	3.98	6.34	−22.00	75.00	826

TABLE 5  
NESTED LOGIT MODELS OF RECRUITMENT TO HOUSEHOLD FARMING (HHF)

VARIABLE	MODEL 1		MODEL 2		MODEL 3		MODEL 4	
	Coefficient	t-ratio	Coefficient	t-ratio	Coefficient	t-ratio	Coefficient	t-ratio
Constant	-2.62651***	-20.132	-2.94795***	-7.056	-3.39381***	-7.386	-1.50591*	-2.037
CADRE	.547066	1.112	.417792	.809	.386147	.740	.379866	.711
EDUC			.031109	.822	.058918	1.515	.017071	.387
FPFARM					.799632**	2.647	1.20809***	3.521
FSENTR					-.525561	-.713	-.187756	-.250
GENDER							-.613825*	-2.346
AGE							-.027299**	-2.682
Log-likelihood	-246.39		-246.06		-242.28		-235.76	
$\chi^2$	1.1		1.76		9.32		22.36	
df	1		2		4		6	
MPRS <sup>a</sup>	.002		.004		.019		.045	

NOTE.—N = 979.

<sup>a</sup> MPRS is McFadden's pseudo  $R^2$  which is defined as

$$\text{MPRS} = (\log L_0 - \log L_m) / \log L_0 = 1 - (\log L_m / \log L_0),$$

where  $L_0$  is the likelihood of the baseline model with all slopes set to zero, and  $L_m$  is the likelihood of the fitted model (McFadden 1974).

\*  $P < .10$ .

\*\*  $P < .01$ .

\*\*\*  $P < .001$ .

TABLE 6  
NESTED LOGIT MODELS OF RECRUITMENT TO NONCORPORATE ENTERPRISE (NONCORP)

VARIABLE	MODEL 1		MODEL 2		MODEL 3		MODEL 4	
	Coefficient	t-ratio	Coefficient	t-ratio	Coefficient	t-ratio	Coefficient	t-ratio
Constant	1.87675***	-19.462	-3.46023***	-10.238	-3.37748***	-9.466	-1.63417**	-3.077
CADRE	.623989*	1.681	.041156	.105	.051826	.132	.177681	.441
EDUC			.147035***	5.150	.143217***	4.887	.118661***	3.662
FPFARM					-.180339	-.615	.325892	1.021
FSENR					-.301348	-.669	.138997	.298
GENDER							-.131520	-.673
AGE							-.034547***	-4.534
Log-likelihood	-389.60		-376.01		-375.61		-363.92	
$\chi^2$	2.54		29.70		30.50		53.88	
df	1		2		4		6	
MPRS <sup>a</sup>	.003		.038		.039		.069	

NOTE.—N = 979

<sup>a</sup> For the definition of MPRS, see table 5.

\*  $P < .10$ .

\*\*  $P < .01$ .

\*\*\*  $P < .001$ .

This form of enterprise is the one most equally open to men and women. In fact, the only factors that make any difference are education and age. Education has an important influence, because most of these noncorporate businesses are forms of self-employment, where people can substitute special skills for scarce capital. Skilled workers and professionals are especially likely to choose this business form either individually or in partnership with others. Youth, again, is an advantage.

Ex-cadres are at an advantage in starting corporate enterprises (table 7). Some of this advantage is explained by the higher formal education ex-cadres possess, but the effect of past cadreship does not disappear in the full model, even after controlling for holding a top- or mid-level management position in 1989. Cadres are at an advantage even among top and middle managers. None of the family background variables are influential. While men are more likely to choose this type of enterprise, their net advantage cannot be discerned in the final model, because it is mostly due to their position of power in the previous regime. Just as for farming and noncorporate enterprise, older people are less likely to embark on this new form of entrepreneurship. Thus, ex-cadres are more likely to pursue both noncorporate and corporate entrepreneurship. Even though their advantage in these activities is due to some extent to their higher average education, they still enjoy a net advantage in corporate entrepreneurship after the effect of education is controlled.

Overall, cadres involved in business strategies are very successful, as measured by change in income between 1989 and 1991. As table 8 shows, the average income of cadres engaging in business was already higher than that of any other group in 1989, and their edge increased in the next two years. Ex-cadres turned entrepreneurs more than doubled their reported personal incomes; cadres not engaging in such activities raised their incomes by only 54%. Noncadre entrepreneurs increased their income by 73%. They moved closer to this second group of cadres but were still only in third place. Since incomes from market activities are underestimated, the actual dynamics is probably even stronger than these figures suggest.

All three types of business enterprise increased the participants' income (table 9). Ex-cadres, however, earned an extra 3,867 HUFs even after I account for education and whether the father was self-employed either as a private farmer or as an entrepreneur outside agriculture (FSEMP). When I extend the model to include the interactions of cadreship with the three types of enterprise, it shows that cadres turned entrepreneurs have an advantage in corporate business. Their advantage in private farming and noncorporate business is statistically nonsignificant. When I include interaction terms for the type of business with education and family background, the analysis shows some evidence for both Nee's

TABLE 7

## NESTED LOGIT MODELS OF RECRUITMENT TO CORPORATE ENTERPRISE (CORP)

VARIABLE	MODEL 1		MODEL 2		MODEL 3		MODEL 4		MODEL 5	
	Coefficient	t-ratio	Coefficient	t-ratio	Coefficient	t-ratio	Coefficient	t-ratio	Coefficient	t-ratio
Constant	-2.96033***	-19.577	-5.08545***	-9.492	-4.95487***	-8.926	-3.30995***	-4.296	-3.26970***	-4.141
CADRE	1.57403***	3.914	.861933*	1.979	.879728*	2.022	.849615*	1.866	.853097*	1.753
EDUC			.190766***	4.489	.185574***	4.283	.174687***	3.676	.170396***	3.433
FPFARM					-.387601	-.784	.080073	.152	.065366	.123
FSENTR					-.565007	-.755	-.177699	-.232	-.193091	-.250
GENDER							-.475392	-1.594	-.470805	-1.576
AGE							-.032044**	-2.724	-.031813**	-2.693
AUTH89M									-.106014	-.190
AUTH89H									.366066	.468
Log-likelihood	-205.86		-195.61		-195.00		-189.66		-189.51	
$\chi^2$	11.84		32.34		33.56		44.24		44.54	
df	1		2		4		6		8	
MPRS <sup>a</sup>	.028		.076		.079		.104		.105	

NOTE.—N = 979.

<sup>a</sup> For the definition of MPRS, see table 5.\*  $P < .10$ .\*\*  $P < .01$ .\*\*\*  $P < .001$ .



TABLE 8  
NOMINAL INCOME IN 1,000 HUFs

	1989		1991	
	Mean	SD	Mean	SD
Entire population .....	6.79	3.71	10.77	7.17
Noncadres not involved in market strategies .....	6.31	3.18	9.57	5.16
Noncadres involved in market strategies .....	7.16	4.06	12.41	8.43
Cadres not involved in market strategies .....	11.73	5.08	18.11	10.74
Cadres involved in market strategies .....	12.05	5.08	25.33	16.68

(1989, 1991) market incentive thesis and Szelényi's (1988) interrupted embourgeoisement theory. (For all models in table 9, I centered education, so the first-order terms for enterprise type are for a person with average education.) There is an extra reward for education and proper family background in farming but not in other types of business. In the full model, ex-cadres earn a net premium of 7,080 HUFs on their past status if they become corporate entrepreneurs.

To see how relative positions in the income distribution changed, I examined the average change in income by quintiles of the 1989 income distribution. Table 10 shows that people in the top two quintiles gained the most in nominal income, but the bottom quintile was a close third. The second and third quintiles increased much less, and, given high inflation, this was a decline in real terms.

Household farming was most present in the third and fourth quintiles and least in the top quintile. Noncorporate entrepreneurs were most likely to come from the top two quintiles, while corporate enterprise was predominantly for those who were rich already in 1989. Table 11 shows how people moved around as a result of entrepreneurship. Corporate entrepreneurs were the most likely to stay in the top quintile, followed by noncorporate entrepreneurs. None of the strategies were of any help in moving out of the bottom quintile. Household farming, however, assisted people in moving out of the bottom two quintiles. Finally, as table 12 shows, all three measures of inequality of personal incomes—the coefficient of variation, the mean relative deviation, and the Gini index—increased.<sup>8</sup>

## DISCUSSION

In this study I found that cadres are no more likely to become household farmers than others, which matches the empirical claims of Nee (1989,

<sup>8</sup> I calculated the same measures for family income and family income per capita and found the same trend.

TABLE 9

ORDINARY LEAST SQUARES MODELS PREDICTING CHANGE IN NOMINAL INCOME BETWEEN 1989 AND 1991 (dINCOME)

VARIABLE	MODEL 1		MODEL 2		MODEL 3		MODEL 4	
	Coefficient	t-ratio	Coefficient	t-ratio	Coefficient	t-ratio	Coefficient	t-ratio
Constant	3.26859***	13.606	3.15985***	11.974	3.30652***	12.575	5.73401***	7.544
CADRE	3.86749***		3.86749***	4.004	1.17570	1.018	1.67364	1.458
EDUC	.25393***		.25393***	3.783	.25498***	3.840	.08833	1.210
FSEMP	.11597		.11597	.222	.13758	.267	.07377	.126
HHF	3.01322***	3.570	3.00589***	3.630	2.31682**	2.724	1.09308	1.088
NONCORP	2.03667**	3.180	1.58416*	2.505	1.40843*	2.163	.88403	1.173
CORP	3.51543***	3.851	2.44659**	2.692	.91579	.936	-.33117	-.302
CADRE × HHF					4.90987	1.471	-.32430	-.094
CADRE × NONCORP					3.18928	1.344	1.50892	.626
CADRE × CORP					8.52712**	3.292	7.07969*	2.579
EDUC × HHF							1.09232***	3.913
EDUC × NONCORP							.29970	1.351
EDUC × CORP							.27572	.965
FSEMP × HHF							3.55737*	1.839
FSEMP × NONCORP							.39269	.244
FSEMP × CORP							3.71641	1.436
GENDER							-1.43518***	-3.446
AGE							-.03465*	-2.338
Adjusted R <sup>2</sup>	.06090		.09107		.11269		.15305	

NOTE.—N = 826.

\* P &lt; .10.

\*\* P &lt; .01.

\*\*\* P &lt; .001.

TABLE 10

CHANGE IN NOMINAL INCOME 1989-91 AND PARTICIPATION IN PRIVATE BUSINESS  
IN 1991 BY 1989 INCOME DISTRIBUTION

	Difference in Nominal Personal Income, 1989-91 (1,000 HUFs)	Proportion Engaged in Commercial Private Farming	Proportion Engaged in Noncorporate Private Enterprise	Proportion Engaged in Corporate Private Enterprise
Entire population .....	3.9808	.0706	.1355	.0581
Income quintile in 1989:				
Bottom .....	4.2980	.0649	.1135	.0108
2d .....	2.9589	.0595	.0833	.0417
3d .....	3.2525	.0988	.1049	.0556
4th .....	4.8396	.0842	.1526	.0579
Top .....	4.3771	.0462	.2197	.1272
N .....	826	878	878	878

1991) and Szelényi (1988). However, cadres are more likely to become entrepreneurs of other kinds. Cadres are more enterprising both as non-corporate and corporate entrepreneurs, yet in the first case this advantage is fully explained by their superior education. This finding furnishes evidence to the technocratic continuity thesis. Starting a corporate business also upholds the technocratic continuity thesis, as education explains part of the effect of cadreship. However, since this form of enterprise gives a net advantage to ex-cadres, the power conversion thesis also receives support. Parental background matters for entering farming only. Sons, and to a lesser degree daughters, of private farmers are more likely to farm than others, yet the father's self-employment experience plays no role in determining whether the children embark on the other forms of enterprise.

In terms of making money, Nee's (1989) market incentive thesis and the technocracy thesis hold for people engaged in farming only. Farming does pay an added return on education. On the other hand, corporate entrepreneurs who were cadres do better in private enterprise than those who were not, which is what power conversion thesis predicts. Running their companies, cadres can take advantage of the informal institutions in which formal institutions are embedded (Polanyi 1957; Granovetter 1985, 1989) and which are much slower to change than formal institutions (North 1990, p. 6). Communist revolutionaries were acutely aware of this; upon assuming power, they attempted to destroy existing informal networks by forcibly shifting people from villages to cities and from fields to factories, by banning or taking control of social organizations, and by instilling a pervasive fear. Sour on revolutionary zeal and bent on building the legal stability necessary for both markets and democracies, the postcommunist leadership is in no position to directly remold these ties.

TABLE 11

LOGIT MODELS OF THE EFFECT OF THE THREE ENTREPRENEURIAL STRATEGIES ON RELATIVE INCOME BETWEEN 1989 AND 1991

VARIABLE	STAYED IN THE TOP QUINTILE		MOVED OUT OF THE BOTTOM QUINTILE		MOVED OUT OF THE BOTTOM TWO QUINTILES	
	Coefficient	t-ratio	Coefficient	t-ratio	Coefficient	t-ratio
Constant .....	-2.17430***	-17.076	-2.01312***	-16.664	-1.97639***	-16.637
HHF .....	-.585231	-1.249	.282838	.724	.660824*	1.812
NONCORP .....	.699420*	2.513	.139297	.448	-.546155	-1.505
CORP .....	1.25699***	3.757	-1.21775*	-1.664	.026541	.059
Log-likelihood .....	-295.23		-296.51		-302.59	
$\chi^2$ .....	19.20		4.64		4.48	
df .....	3		3		3	
MPRS <sup>a</sup> .....	.031		.008		.007	

NOTE.—N = 826.  
<sup>a</sup> For the definition of MPRS, see table 5.  
\* P < .10.  
\*\* P < .01.  
\*\*\* P < .001.

TABLE 12  
MEASURES OF INCOME INEQUALITY

	PERSONAL INCOME	
	1989	1991
Coefficient of variation .....	.554	.670
Mean relative deviation .....	.188	.220
Gini index .....	.263	.297

NOTE.— $N = 826$ .

The pattern of recruitment and success suggests that the lessons of household farming cannot be applied to other forms of private enterprise. Farming appears to be more egalitarian than other business strategies because of its low barrier to entry. It requires traditional production skills in abundant supply and has a simple organization of production, a minimum interface with other units of production, and a fairly simple strategy for marketing. If at a later point in the transition free access to land makes it possible for larger-scale private agribusinesses to develop, I expect those to show the same patterns of recruitment as corporate enterprises.

As for the distributional consequences of the shift to capitalism, no enterprise helps those worst off. However, household farming is a modest force of social mobility. The other two forms of enterprise, on the other hand, both keep people on the top. This has the effect, *ceteris paribus*, of increasing income inequalities.

Income inequalities, however, are influenced by factors other than entrepreneurship, not discussed here. The most obvious omission is the changes in the structure of the labor market. With the contraction of the state sector, unemployment appears. It stood at only 2% at the time of the second survey, but it rose into double digits by the end of 1991 and has stood there since. With the expansion of the private sector, new opportunities open for workers who seek full- or part-time employment. Furthermore, the postcommunist political elite often uses its power to manipulate the internal labor markets of state firms to promote politically reliable people and to demote others it considers politically tainted in the previous regime. Besides changes in the labor market, this study also ignored the developing investment market, which provides rental income to a growing number of people as the transition proceeds. These changes have a strong, here unexamined, impact on the distribution of income.

Finally, this analysis did not address the active redistributive policies of the state. During the transition, the government must redistribute some income toward those who are most adversely affected by the auster-

ity measures it introduces (Balcerowicz 1990). The reason the lowest quintile increased its nominal income more than the two above it is that the government introduced a minimum wage of 5,100 HUFs in 1990.

### CONCLUSION

During the transition from socialism to capitalism, the private sector develops an expansive corporate segment. This new dynamic segment complements the labor-intensive small-scale private sector that developed during the erosion of socialism. I have shown that in this corporate segment cadres are doing quite well. Being a cadre helps them to start their corporate companies and helps them to be financially successful.

In the more traditional segment of the private sector, the old "second economy" that developed mostly during the erosion of socialism, cadres have less or no advantage. In those forms of enterprise, which hire nobody, invest little, and move goods of only modest value, cadres show more interest and are more successful than others only to the extent to which they are better educated than the average citizen.

The transition to a market economy overall increases inequalities. In Eastern Europe, where total consumption is declining, a large portion of the population is losing ground in absolute terms. This situation has already put political pressure on the political leadership to slow down or reverse institutional reforms. The most likely outcome of this process is not an unadulterated market but rather a tripartite economy. The state sector will survive, though in a much diminished form, a dynamic corporate private sector will emerge, and a traditional sector of self-employment will persist. Each segment is likely to develop its own distinct pattern of recruitment and rewards.

To what degree the market transition brings prosperity in particular postcommunist societies is influenced by a series of variables far beyond the horizon of my original research questions, but economic development will depend to a considerable extent on the new economic elite of corporate entrepreneurs. Because in the transition from socialism the first shall not be last, but rather the first shall last, this new elite will substantially overlap with the old one. Thus, the kind of cadres who emerged during the last decades of socialism will be crucial. I would expect that countries where the Communist party took a more pragmatic approach to the economy in the 1980s will stand a better chance to succeed.

### REFERENCES

- Alexeev, Michael V., and Clifford G. Gaddy. 1991. "Trends in Wage and Income Distribution under Gorbachev." *Berkeley-Duke Occasional Papers on the Second*

- Economy in the USSR*, no. 25. University of California, Berkeley, Department of Economics; Duke University, Department of Economics.
- Aslund, Anders. 1985. *Private Enterprise in Eastern Europe: The Non-Agricultural Private Sector in Poland and the GDR, 1945–1983*. New York: St. Martin's.
- Atkinson, Anthony B., and John Micklewright. 1992. *Economic Transformation in Eastern Europe and the Distribution of Income*. Cambridge: Cambridge University Press.
- Balcerowicz, Leszek. 1990. "The Price of Polish Economic Reform." Pp. 223–38 in *Without Force or Lies*, edited by Edith Anderson. San Francisco: Astronomical Society of the Pacific.
- Baló, György, and Iván Lipovecz. 1988. *Tények könyve '89* (The book of facts '89). Budapest: Ráció.
- . 1993. *Tények könyve '93* (The book of facts '93). Budapest: Greger Média.
- Berend, Ivan T. 1990. *The Hungarian Economic Reforms, 1953–1988*. Cambridge: Cambridge University Press.
- Blau, Peter M., and Danching Ruan. 1990. "Inequality of Opportunity in Urban China and America." *Research in Social Stratification and Mobility* 9:3–32.
- Bourdieu, Pierre. 1977. *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.
- Böröcz, József. 1993a. "Informality and the Second Economy in East-Central Europe." Pp. 215–39 in *Work without Protections: Case Studies of the Informal Sector in Developing Countries*, edited by Gregory K. Schoepfle and Jorge F. Perez-Lopez. Washington, D.C.: Department of Labor, Bureau of International Labor Affairs.
- . 1993b. "Simulating the Great Transformation: Property Change under Prolonged Informality in Hungary." *Archives Européennes de Sociologie* 34:81–107.
- Bunce, Valerie, and Mária Csanády. 1993. "Uncertainty in the Transition: Post-Communism in Hungary." *East European Politics and Societies* 7 (2): 240–75.
- Burawoy, Michael, and Pavel Krotov. 1992. "The Soviet Transition from Socialism to Capitalism." *American Sociological Review* 57 (1): 16–38.
- Central Statistical Office. 1984. *Magyar statisztikai zsebkönyv, 1984* (Hungarian statistical pocketbook, 1984). Budapest: KSH.
- . 1986. *Magyar statisztikai zsebkönyv, 1986* (Hungarian statistical pocketbook, 1986). Budapest: KSH.
- . 1989. *Magyar statisztikai zsebkönyv, 1989* (Hungarian statistical pocketbook, 1989). Budapest: KSH.
- Central Statistical Office Data Base. Current Data on Economic Organizations. Hungarian Statistical Office, Department of Economic Statistics, Budapest.
- Cochrane, Nancy J. 1988. "The Private Sector in East European Agriculture." *Problems of Communism* 37 (2): 47–53.
- Connor, Walter D. 1979. *Socialism, Politics and Equality: Hierarchy and Change in Eastern Europe and the USSR*. New York: Columbia University Press.
- Ékes, Ildikó. 1987. *A gazdaság rejtett szférája—a láthatatlan jövedelmek* (The hidden sphere of the economy—invisible incomes). Doctoral dissertation. Hungarian Academy of Sciences, Budapest.
- Gábor, R. István. 1989. "Second Economy and Socialism: The Hungarian Experience." Pp. 339–60 in *The Underground Economies: Tax Evasion and Information Distortion*, edited by Edgar L. Feige. Cambridge: Cambridge University Press.
- Galasi, Péter. 1985. "Extra Income and Labour Market Position." Pp. 293–316 in *Labour Market and the Second Economy in Hungary*, edited by Péter Galasi and György Sziráczi. Frankfurt: Campus Verlag.
- Granovetter, Mark. 1985. "Economic Action and Social Structure: The Problem of Embeddedness." *American Journal of Sociology* 91 (3): 481–510.
- . 1989. "The Old and the New Economic Sociology: A History and an

- Agenda." Pp. 89–112 in *Beyond the Marketplace: Rethinking Economy and Society*, edited by Roger Friedland and A. F. Robertson. New York: Aldine de Gruyter.
- Grossman, Gregory. 1977. "The 'Second Economy' of the USSR." *Problems of Communism* 26 (5): 25–40.
- . 1989. "Sub-rosa Privatization and Marketization in the USSR." *Berkeley-Duke Occasional Papers on the Second Economy in the USSR*, no. 17. University of California, Berkeley, Department of Economics; Duke University, Department of Economics.
- Haller, Max, Tamás Kolosi, and Péter Róbert. 1990. "Social Mobility in Austria, Czechoslovakia, and Hungary." Pp. 153–97 in *Class Structure in Europe: New Findings from East-West Comparisons of Social Structure and Mobility*, edited by Max Haller. Armonk: M. E. Sharpe.
- Haller, Max, and Bogdan W. Mach. 1984. "Structural Changes and Mobility in a Capitalist and a Socialist Society: Comparison of Men in Austria and Poland." Pp. 43–103 in *International Comparative Research: Social Structures and Public Institutions in Eastern and Western Europe*, edited by Manfred Niessen, Jules Peschar, and Chantal Kourilsky. Oxford: Pergamon.
- Hankiss, Elemér. 1990. *East European Alternatives*. Oxford: Clarendon Press.
- HVG. 1993. "Gründolási láz" (The fever of starting new businesses). *Heti Világgazdaság* 714:83.
- Jenkins, Robert M. 1990. "Two Modes of Economic Integration in Hungary: Consequences for Careers." *East European Politics and Societies* 4:513–57.
- Kemény, István. 1982. "The Unregistered Economy in Hungary." *Soviet Studies* 34 (3): 349–66.
- Kocsis, Györgyi. 1992. "Privatizáció '91" (Privatization '91). Pp. 587–91 in *Tények könyve '92* (Book of facts '92), edited by György Baló and Iván Lipovecz. Budapest: Ráció.
- Kolosi, Tamás. 1991. "A reális szocializmus összeomlásának társadalmi okai" (The sociological reasons for the collapse of real socialism). *Valóság* 9:11–16.
- Kolosi, Tamás, and Péter Róbert. 1991. *A rendszerváltás társadalmi hatásai* (The social effects of the regime transition). Budapest: TARKI.
- Konrád, George, and Ivan Szelényi. 1991. "Intellectuals and Domination in Post-Communist Societies." Pp. 337–61 in *Social Theory for a Changing Society*, edited by Pierre Bourdieu and James S. Coleman. Boulder, Colo.: Westview.
- Kornai, János. 1989. "The Hungarian Reform Process: Visions, Hopes, and Reality." Pp. 32–94 in *Remaking the Economic Institutions of Socialism: China and Eastern Europe*, edited by Victor Nee and David Stark. Stanford, Calif.: Stanford University Press.
- . 1992. *The Socialist System: The Political Economy of Communism*. Princeton, N.J.: Princeton University Press.
- Kovács, Imre. 1988. *Termelők és vállalkozók* (Producers and entrepreneurs). Budapest: Social Science Institute.
- Lampland, Martha. 1987. *Working through History: Ideologies of Work and Agricultural Production in a Hungarian Village, 1918–1983*. Ph.D. Dissertation. University of Chicago, Department of Anthropology.
- Li, Cheng, and David Bachman. 1989. "Localism, Elitism, and Immobilism: Elite Formation and Social Change in Post-Mao China." *World Politics* 42:64–94.
- Li, Cheng, and Lynn White. 1990. "Elite Transformation and Modern Change in Mainland China and Taiwan: Empirical Data and the Theory of Technocracy." *China Quarterly* 121:1–35.
- Łoś, Maria, ed. 1990. *The Second Economy in Marxist States*. London: Macmillan.
- Major, Iván. 1992. "Private and Public Infrastructure in Eastern Europe." *Oxford Review of Economic Policy* 7:76–92.
- Manchin, Róbert, and Iván Szelényi. 1987. "Social Policy under State Socialism."



- Pp. 102–39 in *Stagnation and Renewal in Social Policy*, edited by Gösta Esping-Anderson, Lee Rainwater, and Martin Rein. White Plains, N.Y.: Sharpe.
- Matras, Judah. 1980. "Comparative Social Mobility." *Annual Review of Sociology* 6:401–31.
- Márkus, György. 1981. "Planning the Crisis: Remarks on the Economic System of Soviet-Type Societies." *Praxis International* 3:240–57.
- McAuley, Alastair. 1992. "The Economic Transition in Eastern Europe: Employment, Income Distribution, and the Social Security Net." *Oxford Review of Economic Policy* 7:93–105.
- McFadden, D. 1974. "The Measurement of Urban Travel Demand." *Journal of Public Economics* 3:308–28.
- Nee, Victor. 1989. "A Theory of Market Transition: From Redistribution to Markets in State Socialism." *American Sociological Review* 54:663–81.
- . 1991. "Social Inequalities in Reforming State Socialism: Between Redistribution and Market." *American Sociological Review*, 56:267–82.
- North, Douglass C. 1990. *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.
- . 1993. "Institutions and Credible Commitment." *Journal of Institutional and Theoretical Economics* 149 (1): 11–23.
- Nove, Alec. 1983. *The Economics of Feasible Socialism*. London: Allen & Unwin.
- O'Hearn, Dennis. 1981. "The Second Economy in Consumer Goods and Services." *Critique* 15:93–109.
- Oi, Jean C. 1989. *State and Peasant in Contemporary China*. Berkeley and Los Angeles: University of California Press.
- Polanyi, Karl. 1957. "The Economy as Instituted Process." Pp. 271–306 in *Trade and Market in Early Empires: Economics in History and Theory*, edited by Karl Polanyi, Conrad M. Arensberg, and Harry W. Pearson. New York: Free Press.
- Prybyla, Jan. 1991. "The Road From Socialism: Why, Where, What and How." *Problems of Communism* 40:1–17.
- Ren, Xin. 1990. "The Second Economy in Socialist China." Pp. 140–56 in *The Second Economy in Marxist States*, edited by Maria Łoś. London: Macmillan.
- Radio Free Europe. 1984. "Radio Free Europe Background Report on Agriculture in Eastern Europe," no. 224. Washington, D.C.: Radio Free Europe Research Institute.
- Riskin, Carl. 1987. *China's Political Economy: The Quest for Development since 1949*. New York: Oxford University Press.
- Róna-Tas, Ákos. 1990. "The Social Origins of the End of Socialism: The Second Economy in Hungary." Ph.D. dissertation. University of Michigan, Department of Sociology.
- . 1991. "The Selected and the Elected: The Making of the New Parliamentary Elite in Hungary." *East European Politics and Societies* 5:357–93.
- . 1995. "The Trojan Horse the Trojans Ended Up Liking: The Political Role of the Second Economy in Hungary in the 1980s." In *Political Consequences of Departures from Central Planning: The Economic Origins of Political Change in Communist States*, edited by Andrew G. Walder. Berkeley and Los Angeles: University of California Press (in press).
- Ronnas, Per. 1989. "Turning the Romanian Peasant into a New Socialist Man: An Assessment of Rural Development Policy in Romania." *Soviet Studies* 41 (4): 543–59.
- Rumer, Boris. 1981. "The 'Second' Agriculture in the USSR." *Soviet Studies* 33 (4): 560–72.
- Sampson, Steven. 1986. "The Informal Sector in Eastern Europe." *Telos* 66:44–66.
- Shirk, Susan. 1989. "The Political Economy of Chinese Industrial Reform." Pp. 328–64 in *Remaking the Economic Institutions of Socialism: China and Eastern*

- Europe*, edited by Victor Nee and David Stark. Stanford, Calif.: Stanford University Press.
- Simis, Konstantin. 1982. *USSR: The Corrupt Society*. New York: Simon & Schuster.
- Simkus, A. Albert. 1981. "Comparative Stratification and Mobility." *International Journal of Comparative Sociology* 22 (3-4): 213-36.
- Staniszki, Jadwiga. 1991. *The Dynamics of the Breakthrough in Eastern Europe: The Polish Experience*. Berkeley and Los Angeles: University of California Press.
- Stark, David. 1990. "Privatization in Hungary: From Plan to Market or From Plan to Clan?" *East European Politics and Societies* 4:351-92.
- . 1992. "Path Dependence and Privatization Strategies in East Central Europe." *East European Politics and Societies* 6 (1): 17-54.
- Szalai, Erzsébet. 1990. *Gazdaság és hatalom* (Economy and power). Budapest: Aula.
- Szelényi, Iván. 1986-87. "The Prospects and Limits of the East European New Class Project: An Auto-critical Reflection on the Intellectuals on the Road to Class Power." *Politics and Society* 15 (1986-87): 103-44.
- . 1988. *Socialist Entrepreneurs: Embourgeoisement in Rural Hungary*. Madison: University of Wisconsin Press.
- Szelényi, Iván, and Szonja Szelényi. 1990. "Az elit cirkulációja?" (The circulation of the elite?) *Kritika* 9:8-10.
- Szelényi, Szonja. 1987. "Social Inequality and Party Membership: Patterns of Recruitment into the Hungarian Socialist Workers' Party." *American Sociological Review* 52 (5): 559-73.
- Treiman, Donald J., and Harry B. G. Ganzeboom. 1990. "Cross-National Comparative Status Attainment Research." *Research in Social Stratification and Mobility* 9:105-27.
- Walder, Andrew G. 1986. *Communist Neo-Traditionalism: Work and Authority in Chinese Industry*. Berkeley and Los Angeles: University of California Press.
- Wank, David. 1992. "Symbiotic Alliance of Entrepreneurs and Officials: The Logics of Private Sector Expansion in a South China City." Paper presented at the conference on the Political Consequences of Departures from Central Planning, Harriman, N.Y., August 25.
- Wasilewski, Jacek. 1985. "Social Process of Regional Power Elite Recruitment." *Sisyphus* 4:205-24.
- . 1990. "The Patterns of Bureaucratic Elite Recruitment in Poland in the 1970s and 1980s." *Soviet Studies* 42:743-57.
- Zagórski, Krzysztof, Rudolf Andorka, Nancy Brandon Tuma, and John W. Meyer. 1984. "Comparisons of Social Mobility in Different Socio-Economic Systems." Pp. 13-42 in *International Comparative Research: Social Structures and Public Institutions in Eastern and Western Europe*, edited by Manfred Niessen, Jules Peschar, and Chantal Kourilsky. Oxford: Pergamon.
- Zubek, Voytek. 1991. "The Polish Communist Elite and the Petty Entrepreneurs." *East European Quarterly* 25 (3): 339-64.

# **Macroeconomics, Economic Stratification, and Partisanship: A Longitudinal Analysis of Contingent Shifts in Political Identification<sup>1</sup>**

Stephen E. Haynes and David Jacobs  
*University of Oregon*

This study examines the effects of unemployment and inflation on aggregate party identification since 1953. Distributive explanations emphasizing partisan preferences about macroeconomic outcomes and their effects on different income groups are gauged by letting the explanatory variables have dissimilar effects when different parties hold office. Independents are included so multinomial logit can be used to trace movements between all three identification choices. When a Democrat is president, increased unemployment heightens Democratic identification but inflation has no effects. When a Republican is president, increased unemployment and inflation reduce Republican identification. These results reveal historically contingent relationships between macroeconomic outcomes and partisan coalitions.

What is the relationship between macroeconomic outcomes and shifts in political identification? The question is critical not only because the current strength of political parties often decides elections but also because historical studies of partisanship show how basic contours of the electoral environment shift over time. Changes in the relative strength of enduring partisan alliances alter the terrain where electoral contests are waged. A study that isolates the historical causes of shifts in partisan coalitions therefore should tell us more about how underlying forces combine to shape elections. This knowledge should help us understand which classes and other groups are most likely to control democratic states when various historical conditions emerge.

<sup>1</sup> We thank Nathaniel Beck, John Dryzek, Greg Hooks, William Keech, Cathie Martin, Robert O'Brien, Joe Stone, and the referees for their especially useful comments on earlier drafts. This research was presented at the 1993 American Sociological Association meetings in Miami Beach. Direct correspondence to David Jacobs, Department of Political Science, University of Oregon, Eugene, Oregon 97403.

Political sociologists have largely ignored electoral politics since the 1970s. This recent inattention is unfortunate. As one of the founders of modern political science noted long ago, politics and partisanship ultimately can be reduced to disputes between the haves and the have-nots (Key 1949). According to more recent analysts (Hout, Brooks, and Manza 1993; Weakliem 1991), class differences continue to have important effects on democratic politics. The unique understanding of inequality and other cleavages provided by sociology combined with a greater awareness of historical processes may lead to new insights about the evolution of electoral coalitions. We seek to reawaken sociological interest in these issues with a quantitative study that focuses on how economic disparities affect party identification through macroeconomic events.

This analysis has additional utility. Historical sociologists are engaged in an important debate about the nature of social reality. Some see the social world as both contingent and uniquely contextual, such that attempts to find universal relationships will inevitably be misleading (Skocpol 1985; Ragin and Zaret 1983; Mann 1986). Others claim it will be fruitful to continue to seek time-invariant generalities (Kiser and Hechter 1991). By combining tests for the effects of many unique historical events with tests for contingent relationships, a design like the one used in this study may show how elements of this debate can be empirically investigated. If reality is nonrecurring and uniquely contextual, studies that make comprehensive efforts to gauge idiosyncratic effects should prove superior. If time-invariant additive and contingent patterns dominate, results will be more consistent with the universalistic approach advocated by Kiser and Hechter (1991).

We take the effects of time into account in another way. In this study we investigate whether citizens make political choices based on what has happened in the past or simply reward or punish an incumbent's performance without any regard for prior events. When they must make decisions without complete information, actors often use past behavior to reduce their uncertainty (March and Simon 1958; Macy 1990, 1991). Using a distributive approach to partisanship, we develop and test contrasting hypotheses about how respondents use history to make political choices. Some ways these contingent results helped to determine the outcome of recent elections are discussed in the last section of the article.

We stress macroeconomic explanations in part because Hibbs (1987) and many others have shown how well these factors explain election results. It therefore is surprising that few studies have looked at the links between macroeconomic conditions and party identification. Some sociologists used time-series designs to study the relationship between macroeconomic movements and public policy (Griffin, Devine, and Wallace 1982, 1983, 1985; Griffin, Wallace, and Devine 1982; Hicks 1984;

Devine 1985; Jacobs 1988), while other sociologists used survey data to see why individuals choose a partisan identity (Knoke 1972, 1974; Knoke and Hout 1974; Janowitz 1981). We combine these previously separate research streams by using a time-series design to see how macroeconomic outcomes and other historical events alter enduring partisan loyalties.

Macroeconomic conditions are also sociologically interesting because their powerful effects on income inequality influence partisanship. Empirical research shows that unemployment and inflation have dissimilar effects on the relative income shares of the rich and the poor. Increased unemployment reduces the share of total income received by the least affluent without diminishing the income shares received by the prosperous (Blank and Blinder 1986). Inflation, on the other hand, decreases the total share of income that goes to the affluent without reducing the income shares of those in the lower half of the income distribution (Hibbs 1987; Blank and Blinder 1986).

Hibbs (1977) and others have shown that political parties react to these distributional effects by seeking different macroeconomic outcomes. When parties on the right hold office they tend to reduce inflation, often at the cost of higher unemployment. Parties closer to the left opt for the opposite trade-off between inflation and unemployment, depicted by the short-run Phillips curve. They tend to reduce unemployment, often at the cost of greater inflation. The contrasting interests of the haves and have-nots appear to cause these opposite inclinations. The primary support for parties on the right comes from the affluent, who lose more from inflation than unemployment. The least affluent support parties closer to the left, because they lose more from unemployment than inflation.

We study how the relationship between the distributional effects of macroeconomic outcomes and party preferences explains net movements in U.S. party identification from 1953 to 1990. Prior studies confirm that Democratic and Republican supporters differ in their sensitivity to unemployment and inflation. To see if these rival outcomes have contrasting effects on partisanship, we focus on the following question: When unemployment or inflation increase during a Democratic or Republican presidency, what effect do these opposite outcomes have on the percentage of people who identify as Democrats, Republicans, or independents?<sup>2</sup> We estimate separate effects during Democratic and Republican presi-

<sup>2</sup> We also include real growth in unreported equations and find that it has little influence on our conclusions (see n.17 below for a discussion of explanatory variables not included in the final equations). This finding seems plausible, because it is difficult to see how growth would matter to most respondents after the effects of unemployment and inflation have been held constant.

dencies because the distributional theory of partisanship suggests that Democratic and Republican identifiers react differently to unemployment and inflation when opposite parties hold the presidency. This approach does not improperly force the coefficients to be identical, so it may uncover theoretically interesting contingent associations. Independents also are included so we can gauge the determinants of all three possible shifts in political identification.

One caveat is in order before proceeding: The analysis will be restricted to available data on the aggregate percentage of people who identify with the two parties or as independents. It will not be possible therefore to see which income groups switch from one identification to another. Our aggregate dependent variables will let us test alternative hypotheses derived from the distributional theory of partisanship, but they will not allow a direct test of this theory.

The primary goal of this article is to increase sociological understanding of the ways that historical events alter electoral coalitions. We study how party identification responds to movements in macroeconomic factors that have opposite effects on income inequality. Quarterly data are used to gauge the effects of unemployment, inflation, and other explanatory variables on the three possible identification shifts between Democrats, Republicans, and independents. The effects of explanatory variables interacted with presidential party are estimated with multinomial logit to isolate the links between trade-offs in macroeconomic performance and the strength of political coalitions when different parties hold the presidency.

## LITERATURE AND HYPOTHESES

### Party Identification

Party identification is an important explanation for voting, but the dominant view of this concept has begun to change (Shively 1980; Niemi and Jennings 1991). A distinction between predispositional and situational explanations captures much of this shift. Until recently, party identification was viewed as predispositional. Adherence to a party was assumed to be stable because it was inherited. Although people may identify with their parents' party because they came from the same environment, the first researchers primarily saw these attachments as the internalized results of early socialization. Party identification was assumed to be unaffected by recent events, because voters were predisposed by emotional commitments and initial learning to see themselves as Democrats or Republicans.

The new view of party identification places more emphasis on current

conditions. Instead of seeing partisanship as primarily inherited and virtually immutable, some researchers suggest that situational explanations for shifts in party loyalties that explain these movements with recent or contemporary events are more accurate. Empirical results support this new view of party identification. Knoke and Hout (1974) examined age, period, and cohort effects and found that, after controlling for parental party identification, a substantial component of partisanship is due to the alternative explanatory variables in their model. Panel studies by Brody (1978) and Fiorina (1981) also showed party adherence changing after altered circumstances. Shifts in the match between the religion of candidates and respondents, satisfaction with the economy, and idiosyncratic events like the Watergate scandal appear to lead to movements in party identification.

In one of the few time-series studies, MacKuen, Ericson, and Stimson (1989) analyzed quarterly shifts in aggregate party identification. They found substantial variance in the percentage of Democratic identifiers, even though there were no major party realignments in their data. Most of this variation cannot be due to sampling or measurement error since the reliability of their series is .93. Aggregate party identification also predicted political outcomes; the correlation between third-quarter identification scores in election years and congressional partisanship is .62. With bivariate graphs MacKuen et al. showed that shifts in Democratic identifiers are associated with shifts in presidential approval and consumer confidence. Finally, they used multivariate procedures and found that consumer confidence, presidential approval, idiosyncratic events, and administration dummies explain shifts in aggregate party identification. Unfortunately, they ignored unemployment and inflation, so they could not see how the distributional effects of macroeconomic outcomes alter partisan coalitions.<sup>3</sup>

<sup>3</sup> Abramson and Ostrom (1991) claim that MacKuen et al. (1989) should not have used the Gallup question, because it elicits more transitory responses than the Survey Research Center/Center for Political Studies (SRC/CPS) questions. The Gallup question is, "In politics, as of today, do you consider yourself a Republican, a Democrat, or an Independent?" The SRC/CPS question is, "Generally speaking do you usually think of yourself as a Republican, a Democrat, an Independent, or what?" Data for the SRC/CPS question is available only for elections. Since our procedures require quarterly data, we use the Gallup question instead, but this choice should not matter. When Abramson and Ostrom use the SRC/CPS measure, their findings often are equivalent to the MacKuen et al. results despite the small number of cases in the SRC/CPS biannual series. Moreover, Bishop, Tuchfarber, and Smith (1993) use both questions in repeated samples and find that in 14 out of 15 trials there are no significant differences in the percentage of people who identify as Democrats, Republicans, or independents when each question is asked. They also find almost identical correlations between various explanatory factors and the two questions on partisanship. The evi-

We introduce methodological refinements to this design. MacKuen et al. (1989) analyzed a time series of Democratic identifiers and treated Republicans as the mathematical complement, but this approach requires an assumption that independents do not exist or remain constant over time. Direct shifts from one party to another also may be relatively infrequent. A major component of partisan identity is a distaste for the other party, so people who defect may more likely become independents. And increased inflation or unemployment (or other events) may lead people who were independents to become Republicans or Democrats. The procedure used by MacKuen et al. improperly identifies shifts between independence and partisanship as net movements between the parties. A more accurate analysis of the causes of shifts in political identity is likely if independents are included in the analysis.

We combine this more inclusive approach with multinomial logit estimation techniques to trace the patterns of new allegiances after defections. When one party loses adherents, the other party and/or the independent category must gain that percentage of new supporters.<sup>4</sup> This complementarity means the three coefficients on a given explanatory variable in our analysis of aggregate shifts in Democratic, Republican, and independent identification must sum to zero. When an event has negative effects on the percentage who identify with a party or as independents, this design will reveal the new loyalties of defectors. By including independents and estimating the net effects of each path between the three possible destinations with multinomial logit, our analysis provides an exhaustive picture of the impact of unemployment, inflation, and other variables on all possible shifts in political identification.

Finally, because MacKuen et al. (1989) used one equation and treated identification with the alternative party as the complement, they had to assume the effects of their macroeconomic indicator were identical but of opposite sign for the two parties. If the distributional theory of party identification is correct, when one party holds the presidency, unemployment and inflation are unlikely to have symmetrical effects on identification across the two parties. There are two antithetical possibilities. First, the party in office may be blamed for a poor performance, so its support would diminish. Second, a reputational hypothesis suggests people may view the party in office as more likely to handle a current macroeconomic problem, so its support may increase during adversity. We separate the

---

dence suggests that slight differences in question wording are unlikely to affect our results.

<sup>4</sup> Since the "no opinion" response is negligible for a few quarters and nonexistent for the rest, it is ignored for simplicity.



effects of explanatory variables by the party of the incumbent president so that the effects of unemployment and inflation on identification can differ when alternative parties hold power.

Thus, we seek answers to questions that are different from the ones that prompt the survey analyses of party identification. Those researchers use cross-sectional or panel design to see how individuals chose a partisan identity. Research on this issue is important, but we are interested in a different question. To see how macroeconomic trade-offs under different political conditions alter the underlying strength of entire electoral coalitions, we gauge the determinants of aggregate shifts in party identification over a more substantial period.

### Research on Partisanship and Macroeconomic Outcomes

Considerable empirical work documents contrasting partisan macroeconomic inclinations. Inflation tends to be higher and unemployment tends to be lower when Democrats hold the presidency than when Republicans hold the presidency (Hibbs 1977, 1987; Alesina 1988; Alesina and Sachs 1988; Chappell and Keech 1986, 1938; Haynes and Stone 1990; Haynes 1992), probably because unemployment and inflation have different effects on the affluent and the nonaffluent.

Blinder and Esaki (1978), Blank and Blinder (1986), and Hibbs (1987) regressed the share of total income received by each one-fifth in the distribution of family incomes on yearly unemployment and inflation since the late 1940s. Findings are similar, but the Blank and Blinder results probably are most robust since they include the 1982 recession and cover more years. Blank and Blinder found that increased unemployment reduces the income shares for families in the lowest one-fifth, but higher unemployment does not cut the affluent's share. Yet inflation has no effect on the bottom one-fifth's share (see Treas [1983] for evidence about the family types most affected by these shifts). Hibbs (1987) and Minarik (1979) used different methods and found that inflation hurts the affluent.<sup>5</sup>

<sup>5</sup> Shifts in the demand for labor probably are the best explanation for the inverse relationship between unemployment and the less affluent's share of total income. Blank and Blinder (1986) claim that real wages and the labor-force participation of lower-income household heads increase dramatically when employment is high. Even though transfer payments do not keep up with inflation, the tight labor market created by expansions overcomes this effect and heightens the income shares of the poor. Inflation reduces the share of income received by the affluent largely because a much greater proportion of their income comes from property. Accounting practices ignore important inflationary effects, so taxes on property income are enhanced during inflationary periods (Feldstein 1980; Hibbs 1987). Inflation also hurts the bond and stock markets (Bodie 1976). Finally, the rich bear more of the costs of inflation because the prices of the goods they purchase increase more rapidly than the prices of other goods during inflationary times (Hibbs 1987).

These distributive effects also are reflected in partisan attitudes. With Gallup data Hibbs (1987) showed that Democratic identifiers tend to prefer reductions in unemployment whereas Republicans are more likely to support efforts to curb inflation.

The strong evidence for dissimilar partisan effects on macroeconomic outcomes therefore is not surprising. Lower-income groups are most likely to vote for the Democratic party, while Republicans rely on the affluent. To increase the relative standing of their supporters, Democratic incumbents try to reduce unemployment even if they must accept higher inflation, because inflation does not seem to hurt their supporters. Republicans pursue restrictive policies instead, because diminished inflation tends to benefit their affluent constituents (Hibbs 1987) but increased unemployment has little effect on the relative income shares of these supporters. According to Kiewiet (1981) and others, these inclinations are reflected in the voters' image of the two parties. Democrats are perceived as the party most likely to reduce unemployment, while voters see Republicans as most likely to curb inflation.

#### The Reputational and Performance Hypotheses

These well-documented partisan effects on unemployment and inflation lead to opposite reputational and performance hypotheses for some macroeconomic outcomes when different parties are in office. Consider a reputational hypothesis applied to unemployment during a Democratic administration. When this party holds office, its historically demonstrated inclination to reduce unemployment may be the most powerful influence on identification. If a reputational hypothesis is correct and respondents are strongly conditioned by prior events, higher unemployment even during a Democratic administration may increase Democratic identification, because potential and marginal Democrats respond to the historical record and see Democrats as more likely to curb unemployment. Identification with the Democratic party also may increase when there is high unemployment, because the Democratic party has more frequently expanded ameliorative programs like unemployment insurance.

Suppose instead that a Democratic administration's current performance has greater explanatory power because marginal and potential Democrats do not respond to that party's historical inclination to reduce unemployment or to its greater tendency to expand relief programs. If the performance hypothesis is more accurate, when unemployment increases during Democratic administrations, the percentage of respondents who identify as Democrats should decline because Democratic identifiers are most likely to be hurt by this outcome.

The same logic leads to predictions with opposite signs if inflation increases during Republican administrations. The reputational hypothesis suggests marginal and potential Republican identifiers respond to the Republican party's historical successes and correctly view the Republican party as more likely to curb inflation. Inflation even during a Republican presidency may therefore enhance Republican identification. The alternative performance hypothesis predicts that, if inflation goes up when a Republican president holds office, the percentage of Republican identifiers will diminish because marginal and potential Republicans are most sensitive to this outcome.

The reputational and performance predictions reinforce one another if the incumbent party has been less able to handle a macroeconomic problem successfully. Suppose inflation increases when the president is a Democrat. According to prior research, Democrats should have the worse reputation for dealing with this problem. High inflation also indicates an administration is not currently performing well, so both hypotheses suggest Democratic identification should fall when inflation occurs during their watch. Equivalent reinforcing hypotheses hold for unemployment during Republican administrations. Both the reputational and performance hypotheses predict Republican identification should suffer after increased unemployment in Republican presidencies.

It is plausible that actors with limited information who face uncertainty make bets about the future based on what has happened in the past (March and Simon 1958). Recent sociological research on social movements (Macy 1990, 1991) suggests that, compared to rational models that require omniscience, explanations based on an assumption that actors behave according to their prior conditioning are more realistic. Voting studies also find results consistent with the reputational hypothesis. People who are uneasy about unemployment more often vote for the Democrats even if a Democrat is president when unemployment rises (Goodman and Kramer 1975; Meltzer and Vellrath 1975; Schlozman and Verba 1979; Kiewiet 1981; Fiorina 1981; Swank 1993). Some studies also find increased voting for the Republican party when inflation is problematic (Schlozman and Verba 1979; Kiewiet 1981), but this relationship appears to be weaker. These reputational effects may explain party identification as well as voting even when the preferred party controls the presidency and macroeconomic performance has been poor.

Table 1 summarizes the reputational and performance predictions in terms of the expected signs of the unemployment and inflation coefficients. The hypotheses in table 1 do not predict shifts in identification as an independent for two reasons. First, no independent presidents have

TABLE 1

PREDICTED RESPONSE OF PARTY IDENTIFICATION WITH THE INCUMBENT PARTY TO  
SHIFTS IN MACROECONOMIC OUTCOMES

HYPOTHESIS	DEMOCRATIC INCUMBENT		REPUBLICAN INCUMBENT	
	Sign of Unemployment Coefficient	Sign of Inflation Coefficient	Sign of Unemployment Coefficient	Sign of Inflation Coefficient
Reputational .....	Positive	Negative	Negative	Positive
Performance .....	Negative	Negative	Negative	Negative

held office, and second, research suggests independents are quite heterogeneous (Miller and Wattenberg 1983; Keith et al. 1992; Dennis 1988a, 1988b), so it is difficult to offer hypotheses about their aggregate behavior in diverse situations.<sup>6</sup> Finally, the hypotheses are restricted to predictions about identification with the party that controls the presidency. While the reputational hypothesis can be used to predict identification with the party out of office, the performance hypothesis is silent about what happens to the party that does not hold the presidency. For symmetry and clarity, our predictions focus on loyalty to the incumbent party.

Following MacKuen et al. (1989), we include the Gallup presidential popularity ratings to see if they influence party identification, but we use separate measures for Republican and Democratic presidents to isolate the effects of popularity for presidents from each party on all possible identification movements. Greater presidential popularity should lead to increased identification with the incumbent party. We follow Chappell (1990) and control for three idiosyncratic events that may lead to shifts in identification by including dummies for Watergate and Iran-Contra, and a continuous measure of deaths in Vietnam. Omitted idiosyncratic effects should be captured by changes in presidential popularity. Finally, we include dummies for each administration and suppress the intercept to avoid linear dependence.

<sup>6</sup> Dennis (1988b) isolates four kinds of independents. He finds "antipartisans," who dislike political parties, the "autonomous," who avoid conforming to party decisions, "variables," who shift between parties, and "neutrals," who cannot decide which party is best. He also finds other important differences. For example, education has a positive effect on antipartisanship and variability, but its relationship with autonomy and neutrality is negative. Keith et al. (1992) and others find many independents who are more partisan than people classified as weak partisans. Such results suggest that many nominal independents really are closet partisans. The heterogeneity documented by these studies makes plausible predictions about the aggregate behavior of independents difficult.

The specification of the model based on a multinomial logit approach (discussed below) is:

$$\begin{aligned} \ln\{\text{prob}[\text{IDENT}_i(t)]/\text{prob}[\text{IDENT}_j(t)]\} = & a_i \text{UNEMDEM}(t) \\ & + b_i \text{UNEMREP}(t) + c_i \text{INFLDEM}(t) + d_i \text{INFLREP}(t) \\ & + e_i \text{POPDEM}(t) + f_i \text{POPREP}(t) + g_{ik} \text{PRES}(t) \\ & + h_i \text{VIETNAM}(t) + l_i \text{WATER}(t) + m_i \text{IRAN}(t), \end{aligned} \quad (1)$$

where  $\text{IDENT}_i$  is the percentage of respondents identifying with partisan affiliation  $i$ ; UNEM is the unemployment rate interacted with a Democratic (DEM) or a Republican (REP) dummy; INFL is the inflation rate, also interacted with the party in office; POP is the presidential popularity rate, also interacted; and the remaining variables (PRES, VIETNAM, WATER, and IRAN) control for period effects. Also,  $t$  is the time period,  $i$  (or  $j$ ) = 1 for Democrats, 2 for Republicans, and 3 for independents;  $k$  = 1 for Eisenhower, 2 for Kennedy, 3 for Johnson, 4 for Nixon, 5 for Ford, 6 for Carter, 7 for Reagan, and 8 for Bush; under the constraint that the relevant summations ( $\Sigma a_i$ ,  $\Sigma b_i$ ,  $\Sigma c_i$ ,  $\Sigma d_i$ ,  $\Sigma e_i$ ,  $\Sigma f_i$ ,  $\Sigma g_{ik}$ ,  $\Sigma h_i$ ,  $\Sigma l_i$ , and  $\Sigma m_i$ ) each equals zero, with all summations indexed over  $i$ .<sup>7</sup>

## METHODS OF ANALYSIS

Following others (Hibbs 1982a, 1982b, 1987), we use logit as the primary estimation method.<sup>8</sup> This procedure has two advantages over linear regression methods. First, the range of values for the party-identification data is bounded between zero and one, implying that each observation from our grouped data represents the probability that a respondent will identify with a given party. Predicted values from multinomial logit are necessarily bounded between zero and one, but regression methods may furnish predictions that go beyond these limits. Second, S-shaped proba-

<sup>7</sup> The data on party identification and presidential popularity are from Edwards (1990) from 1953 to 1988 and from the Roper Center for Public Opinion Research (University of Connecticut) for 1989 and 1990. Data for unemployment are from Gordon (1990) through the second quarter of 1989, and from the *Survey of Current Business* (Bureau of the Census 1992) thereafter. Data for the consumer price index (CPI) also are from the *Survey of Current Business*, and inflation is defined as the first difference of the log of the CPI. The Vietnam measure is the number of U.S. servicemen killed in action during a quarter; it is taken from Milstein (1974) and the *Statistical Abstract of the United States* (Bureau of the Census 1989). The dummy variable for Watergate is "1" for the first two quarters of 1974 and "0" otherwise. The dummy for Iran-Contra is "1" from the fourth quarter of 1986 to the fourth quarter of 1987 and "0" otherwise.

<sup>8</sup> For a development of group-data multinomial logit, including methods for computing marginal effects from logit estimates, see Greene (1993, pp. 664–70). Our equations are appropriately weighted by the sample sizes used in the Gallup surveys.

bility functions are more realistic because the causes of identification are likely to have little effect near the zero and one probability limits and greater effect between the two limits. The marginal effects of causes are necessarily S-shaped with logit but are constant for all probability values with regression methods.<sup>9</sup>

The multinomial logit model in equation (1) specifies the dependent variable as the log of the relative probability of identifying with category  $i$  rather than  $j$ . We estimate equation (1) using maximum-likelihood techniques and then use these estimates to compute the net marginal effects of causes on the probabilities of identifying with a single category, a relationship that is nonlinear in the explanatory variables.

Given the longitudinal nature of our quarterly observations, there are three estimation issues that should be addressed. The first concerns lagged adjustment of party identification to changes in the explanatory variables. Following Chappell (1990) and Haynes (1992), the unemployment, inflation, and popularity regressors are defined as four-quarter moving averages, except for the first three quarters of a presidential administration. For these quarters, only within-term data are used to construct the moving averages. An alternative approach, used by Hibbs (1982*a*, 1982*b*, 1987) and others, is to include a lagged dependent variable on the right-hand side, which specifies a Koyck or geometrically declining lag structure. Since the two lag structures yield equivalent estimates that do not alter the conclusions, we use the simpler moving-average approach.<sup>10</sup>

The second issue concerns autocorrelation, a topic apparently not well developed in the context of grouped-data multinomial logit. Although parameter estimates remain consistent in the presence of autocorrelation, standard errors and  $t$ -statistics can be biased. To see if first-order autocor-

<sup>9</sup> A potential drawback with multinomial logit is that it assumes independence of irrelevant alternatives, implying in this application that the three political identification choices are not close substitutes. The two choices analyzed in a multinomial logit equation are assumed independent of a third choice, so results will be erroneous if an omitted choice is a perfect substitute for an included choice. We follow the recommendation of Hausman and McFadden (1984) and reestimate the identification probabilities for Democrats and Republicans without independents, using a binomial logit specification. The binomial estimates are similar to the corresponding multinomial ones, supporting the assumption that these alternatives are independent.

<sup>10</sup> In addition to the Koyck and four-quarter moving averages, we experimented with moving averages based on other durations and found weaker results. We did not try to distinguish between the performance and reputation hypotheses by proxying the performance effect with a short distributed lag and the reputation effect with a prolonged or delayed lag because a delayed lag for the reputational effect would likely require spillover across administrations. If delayed lags are used, administrations would be held accountable for what happened during the prior administration. This complication is avoided with the Chappell specification used in our model.

relation is a problem, we perform three tests. First, we analyze the behavior over time of the difference between the actual and predicted values of the log ratio of the two probabilities from our logit equations and find little autocorrelation in these residuals. Second, we compute OLS estimates of equation (1) and again find little evidence of significant autocorrelation. These OLS coefficients and the *t*-statistics are generally similar to the logit estimates. Third, we compute GLS estimates of equation (1), correcting for first-order autocorrelation, and find these coefficients to be quite similar to the OLS estimates, while the *t*-statistics are only moderately reduced. Such results suggest that first-order autocorrelation is not a problem (although higher-order autocorrelation may still be present).

A third estimation issue concerns the relationship between popularity and economic performance. Movements in presidential popularity in part reflect shifts in economic performance. To isolate the impact of popularity on identification that is independent of economic performance, MacKuen et al. (1989) used a prefiltered popularity series. In our multivariate analysis, the popularity coefficients reflect the response of identification while holding economic performance constant, because the performance measures also are included as regressors.

Some hypotheses about macroeconomic effects on partisanship predict relationships with opposite signs. We also cannot predict the direction of the presidential dummies. The coefficients on these dummies are the conditional means of the dependent variable for each administration holding constant the other variables in the model. Two-tailed tests are therefore used to gauge the significance of all coefficients except those for presidential popularity, Watergate, and Iran-Contra. All quarters from the second quarter of 1953 to the fourth quarter of 1990 are included, for a total of 151 cases.<sup>11</sup>

## RESULTS

Figure 1 shows movements in party identification during the analysis period. Since the early 1960s identification as an independent has greatly

<sup>11</sup> We selected this period for several reasons. The Gallup data on partisanship begins in 1953, but other considerations also suggest this is a good starting point. Most macroeconomic studies avoid the Truman years because it was such a turbulent economic period. Two wars led to substantial shifts in inflation and unemployment (e.g., inflation went from 14.4% in 1947 to -1.2% in 1949 and then back to 7.9% in 1951). We ended the analysis at the last quarter of 1990 for equivalent political reasons. During the Persian Gulf war in 1991, Bush's popularity ratings soared to above 90%, yet these extraordinary scores soon proved to be superficial. We also are uncomfortable employing the equivalent killed-in-action statistics we used for Vietnam to gauge the effects of the Persian Gulf war, so we ended the analysis at the quarter before this war began.

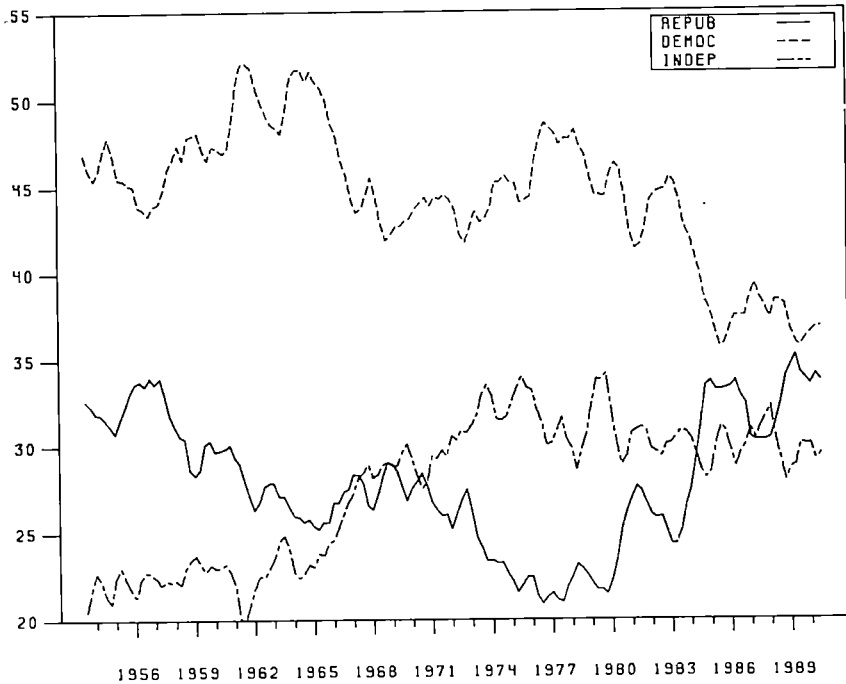


FIG. 1.—Party identification

increased, although the Republican party recently recaptured second place. The large percentage of independents suggests this choice should not be ignored in an analysis of the determinants of political identification. These plots also suggest that variation in the three dependent variables is equivalent. Indeed, the actual variances for Democrats, Republicans, and independents, respectively, are 0.00158, 0.00180, and 0.00169. The correlation coefficients are  $-.501$  between Democrats and Republicans,  $-.547$  between Democrats and independents, and  $-.451$  between Republicans and independents. These similarities and the precedent established by Hibbs (1987) in his analysis of presidential approval provide more reasons to treat independents symmetrically in a longitudinal analysis of political identification.

### Multinomial Logit Results

Table 2 shows in three columns the multinomial logit estimates of equation (1), with all three paired identification choices recorded for clarity (although this makes one column redundant). The coefficients (which sum to zero across each row) represent the probabilities that respondents



TABLE 2

MULTINOMIAL LOGIT ESTIMATES OF THE DETERMINANTS OF AGGREGATE  
PARTY IDENTIFICATION

	Republican/ Democrat (1)	Independent/ Republican (2)	Democrat/ Independent (3)
Unemployment:			
Democratic president .....	2.10877 (.863)	-15.6309** (-5.420)	13.4501** (5.310)
Republican president .....	-4.75091** (-6.050)	4.47897** (5.208)	.27195 (.349)
Inflation:			
Democratic president .....	1.23028 (.927)	-.66220 (-.439)	-.56809 (-.425)
Republican president .....	-1.86828** (-4.190)	2.42500** (4.983)	-.55673 (-1.247)
Popularity:			
Democratic president .....	-.80327** (-4.730)	.45980** (2.377)	.34348** (2.034)
Republican president .....	.78230** (5.657)	-.55338** (-3.666)	-.22892* (-1.661)
Eisenhower .....	-.62404** (-5.194)	-.24836 (-1.895)	.87239** (7.292)
Kennedy .....	-.16814 (-1.162)	.42705* (2.616)	-.25891 (-1.812)
Johnson .....	-.23587 (-1.816)	.39160** (2.675)	-.15573 (-1.212)
Nixon .....	-.58411** (-5.176)	.07375 (.602)	.50666** (4.522)
Ford .....	-.5817** (-4.894)	.10430 (.804)	.47588** (4.007)
Carter .....	-.56541** (-2.749)	1.16297** (5.021)	-.59756** (-2.938)
Reagan .....	-.28394* (-2.221)	-.14492 (-1.038)	.42886** (3.362)
Bush .....	-.22979 (-1.802)	-.14145 (-1.017)	.37124** (2.911)
Watergate .....	.04641 (.779)	.01846 (.289)	-.06487 (-1.168)
Vietnam .....	-.00823 (-.822)	.00474 (.429)	.00349 (.354)
Iran-Contra .....	.02637 (.741)	.06778 (1.762)	-.09464** (-2.611)
Pseudo $R^2$ .....	.874	.889	.870
Log-likelihood:			
All variables .....			-234,680
Excluding unemployment and inflation .....			-234,730
Excluding unemployment, inflation, and popularity .....			-234,860
Including only presidential dummies .....			-236,160

NOTE.— $t$ -values in parentheses; coefficients may not sum to zero across rows due to slight rounding errors.

\*  $P \leq .05$ .      \*\*  $P \leq .01$ .

will make one identification choice instead of the other. The two choices analyzed in each column are shown in the headings over the columns. The order of the choices in these headings is important. The heading over column 1 is Republican relative to Democratic identification. A positive coefficient in column 1 therefore indicates that an increase in an explanatory variable leads to net shifts from the Democratic to the Republican party, while a negative coefficient indicates movements from the Republican to the Democratic party. Positive signs in column 2 indicate shifts from the Republican party to independence, while negative signs show net shifts from political independence to Republican identification. Positive relationships in the third column reveal net shifts from independence to the Democrats, and negative signs indicate movements in the opposite direction.

In part because so many other effects have been held constant, the coefficients on the presidential dummies probably have little substantive meaning. These coefficients are conditional means and thus show the average value of the dependent variable during the president's tenure after holding the effects of the other explanatory variables constant. For example, Reagan's negative coefficient in the first column indicates that there still would have been more Democrats than Republicans during his presidency after taking into account the effects of changes in his popularity, shifts in unemployment and inflation, and the Iran-Contra scandal. These coefficients are not easily interpreted, because they are residual effects left after the other influences have been eliminated.

Substantive interpretations of multinomial logic coefficients are difficult when the results are presented in the standard format used in table 2, but several patterns are strong enough to stand out. All coefficients for inflation during Democratic presidencies are insignificant, so this outcome evidently does not alter political identification when the Democrats hold office. Inflation during a Republican presidency and unemployment when either party holds office lead to more substantial changes in party identification. Two out of the three coefficients for each of these explanatory variables are significant. Presidential popularity has the most consistent effects. All six of its coefficients are significant predictors of net movements from one political identification to another. But a much clearer picture of overall patterns will emerge if the most important findings are diagrammed.<sup>12</sup>

<sup>12</sup> The effects of the Watergate and the Iran-Contra scandals appear to be captured by presidential popularity. The coefficients on these two variables shift in the expected direction when popularity is dropped from the equations. The coefficients on the Watergate dummy become statistically significant with the expected sign if popularity

An Alternative Picture of the Results: Marginal Probabilities

At the top of table 3 we illustrate significant movements from one political identification to the others that are attributable to macroeconomic variables and presidential popularity. An effect must have a significant coefficient in table 2 to merit a path in the diagrams at the top of table 3. The numbers associated with each identification possibility in the diagrams are the marginal probabilities of identifying with each party or as an independent computed from the multinomial logit estimates in table 2 (see Greene [1993, p. 666] for the algorithm). These values can be interpreted as the net effects of all identification movements on the percentage of identifiers after a one-unit upward shift in an explanatory variable when one or the other party holds the presidency.

Consider the illustration in diagram 1 (at the top left of table 3) of the effects of unemployment when a Democrat holds office. The first coefficient in the first multinomial logit analysis in table 2 shows that shifts between Democrats and Republicans are insignificant, so no path is drawn from one party to the other in diagram 1. This result indicates that increased unemployment during a Democratic presidency does not lead people identified with one party to move to the other. The two coefficients to the right of the first coefficient in table 2 in the same row are significant, so a path runs from independents to Democrats and another path runs from independents to Republicans in diagram 1 of table 3. These paths represent the significant shifts from identification as an independent to identification as a Republican or a Democrat.

The signs of the relevant coefficients indicate that when unemployment goes up during a Democratic presidency, a significant number of independents become Republicans, and a significant number of independents also move to the Democratic party. The independent category is the net loser, so the marginal probability score under this choice is negative. The positive marginal probability scores for the two parties show net growth in the number of their adherents when unemployment increases during a Democratic presidency. The marginal probability scores in each diagram at the top of table 3 also must sum to zero, so the substantial independent losses depicted in diagram 1 must be balanced by increased identification with one (or both) of the political parties. In this case each party gained adherents, but the Democrats gained slightly more.

---

is dropped from the two equations analyzing Republican identification in table 2. The coefficient on the Iran-Contra dummy shifts to the expected direction but remains insignificant in the equation analyzing shifts between Democrats and Republicans. The magnitude of the significant coefficient on Iran-Contra increases when shifts between Republicans and independents are analyzed. The war in Vietnam extended over both Democratic and Republican administrations, so its effects on identification are unpredictable.

TABLE 3  
MOVEMENT FROM ONE POLITICAL IDENTIFICATION TO ANOTHER

	UNEMPLOYMENT		INFLATION		POPULARITY	
	Democratic President (Diagram 1)	Republican President (Diagram 2)	Democratic President (Diagram 3)	Republican President (Diagram 4)	Democratic President (Diagram 5)	Republican President (Diagram 6)
Marginal probabilities from multinomial logit equations .....	1.3323	-.9574	R	-.4303	-.1297	.1428
Predicted sign of coefficient:*						
Reputational hypothesis .....	Positive†	Negative†	Negative	Positive	No prediction	No prediction
Performance hypothesis .....	Negative	Negative†	Negative	Negative†	No prediction	No prediction

NOTE —Arrows indicate statistically significant paths; statistically insignificant paths are not shown.  
 \* A positive coefficient indicates a positive relationship between the economic variable and identification with the president's party.  
 † Prediction corroborated by calculated probabilities.

Other patterns are equally noteworthy. According to diagram 2 in table 3, if unemployment increases when the Republicans hold office, this party loses adherents to the other two destinations, there is no evidence of a significant movement between independents and Democrats, and again the Democrats gain the most. An analysis of the impact of inflation reveals opposite patterns. According to diagram 3, if inflation increases when the Democrats are in office, no net movements in political identification take place. Yet diagram 4 shows that increased inflation during Republican administrations lead to substantial defections from this party. The marginal probabilities in diagram 4 indicate that these defectors are more likely to become independents, but the Democrats also gain from increased inflation during Republican terms.

Finally, the pattern of shifts in identification due to presidential popularity is almost perfectly symmetrical. According to the paths in diagram 5, when the popularity of a Democratic president increases, Republicans and independents both move to the Democratic party. While some independents become Democrats, an almost equal number of Republicans become independents. According to the marginal probability value for independents in diagram 5, the net effects of these movements to and from identification as an independent almost cancel, but independents still suffer a small net loss.

Diagram 6 shows the same symmetrical pattern when the popularity of a Republican president increases. The marginal probability scores indicate that many Democrats switch to the Republican party, and the shifts to and from independent identification again almost cancel. Slightly fewer Democrats become independents than the number of independents who become republicans, so the independent category again experiences a small net loss. The findings in diagrams 5 and 6 therefore suggest that when a president from either party becomes more popular, the opposite party loses the most adherents, because movements to and from the independent category leave that category virtually unchanged and because significant numbers shift from the party not in office to the president's party.

An illustration of the explanatory power of the logit estimates is presented in figure 2 for Republicans, figure 3 for Democrats, and figure 4 for independents, where presidential elections are represented by vertical lines. In these figures actual identification appears as a solid line, the predicted series based on the full model appears as a dashed line, and the predicted series based only on the presidential dummy variables (labeled "dummy") appears as a dashed and dotted line. The step function pattern of the fitted line based on the presidential dummies underscores the importance of these intercept shifts, but a comparison of the two fitted patterns shows the improvement in the model after the inclusion of the

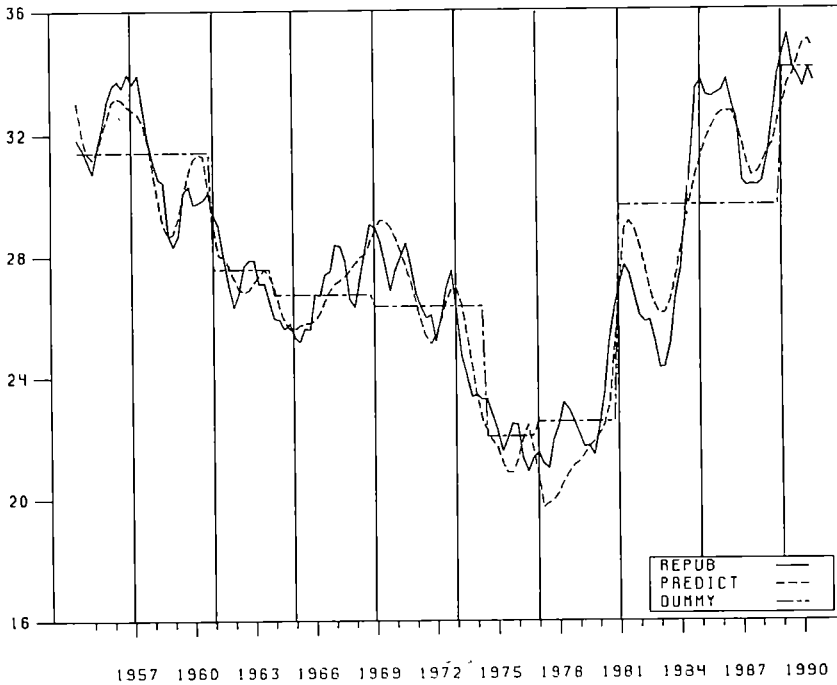


FIG. 2.—Predicted Republican identification

macroeconomic and popularity regressors. Pseudo  $R^2$ s computed on the square of the correlation coefficient between actual and predicted identification for these equations are .870 for Republicans, .849 for Democrats, and .868 for independents. Likelihood-ratio tests support the formal significance of the multinomial logit estimates.<sup>13</sup>

#### Testing for Structural Change

The equations in table 2 assume constant coefficients over time. To test this premise, we allowed the coefficients on the economic variables to differ before and after the fourth quarter of 1968. This point separates

<sup>13</sup> Computed from the log-likelihood statistics reported in the bottom of table 2, the likelihood-ratio statistic for the significance of the overall equation is 2,980, the statistic for the significance of the addition of economic and popularity regressors to the model with only dummy variables included is 360, and the statistic for the significance of the addition of the economic regressors to the model with the dummy variables and the popularity regressors included is 100. All three values dramatically exceed their appropriate chi-square critical values, demonstrating the formal significance of the "added" variables in all three cases.

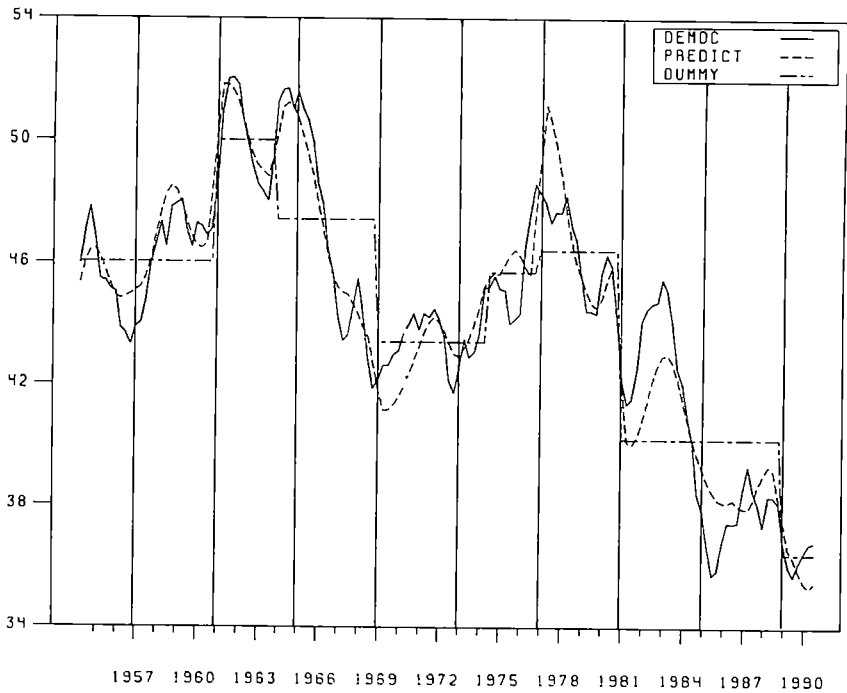


FIG. 3.—Predicted Democratic identification

two consecutive Democratic administrations from two consecutive Republican ones. It also isolates a low-inflation period from one with high inflation and a time of optimism about growth from one when the United States first faced limits on economic development. The model was respecified by using dummies to create unemployment and inflation variables for each party and each subperiod.<sup>14</sup> After substituting the eight “pe-

<sup>14</sup> We defined two dummy variables. The first was set equal to one from 1953 through 1968 and zero from 1969 through 1990, while the second was defined as zero for the first period and one for the second. We interacted each of the four economic variables with each dummy variable and reestimated the model. The coefficients on the four economic variables interacted with the first dummy provide estimates of macroeconomic effects during the first period, while the coefficients on the four economic variables interacted with the second dummy provide estimates for the last. We did not test for structural change by estimating the model with two separate subsamples, because this test requires equations with identical variables. This is impossible in this model because two idiosyncratic variables (Watergate and Iran-Contra) occur only in the second subsample and because different administrations with different effects appear in separate subsamples. By including variables interacted by subsample and using this specification as the unrestricted model, we avoid this problem.

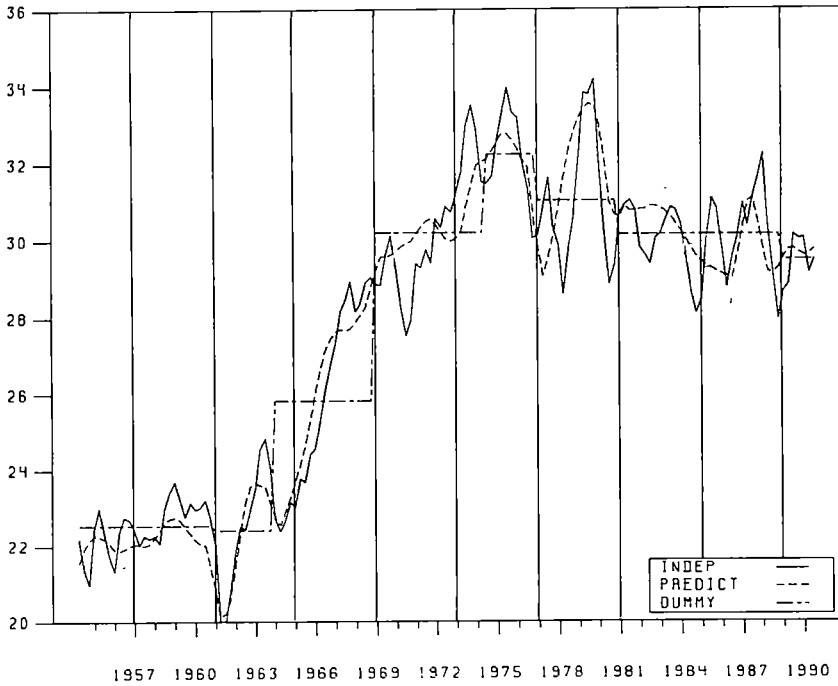


FIG. 4.—Predicted independent identification

riodized" economic variables (four for each subperiod) for the original four economic variables in the equations in table 2, the equations were reestimated.

The likelihood-ratio statistic comparing this unrestricted model to the model in table 2 indicates structural change between periods is present. The significance tests on the coefficients from these equations (which are not reported) show that unemployment during Democratic presidencies accounts for most of the differences in the estimates across the two periods. Before the fourth quarter of 1968 when unemployment increased during Democratic administrations, the pattern illustrated in the first diagram of table 3 held. Independents became Democrats and they also moved to the Republican party, but no significant movements between parties occurred. A quite different pattern is found for the only Democratic administration in the later period. The significance tests and the signs of the coefficients show that greater unemployment led both Democrats and independents to switch to the Republican party during the Carter years, but there were no significant shifts between the independent and the Democratic categories. With one additional exception, the sig-



nificance and signs of the other coefficients on the macroeconomic variables from the "periodized" equations are identical to the significance and signs for the equivalent macroeconomic coefficients reported in tables 2 and 3.<sup>15</sup>

To evaluate the sensitivity of these results to the choice of the fourth quarter of 1968 as the breakpoint, we repeated our likelihood-ratio test for structural change for all possible breakpoints within (plus or minus) four years of the fourth quarter of 1968. Not surprisingly, comparisons of the likelihood-ratio statistics across the various breakpoints indicated that the change took place gradually over the latter 1960s.<sup>16</sup> Logit estimates based on these various breakpoints are consistent with estimates for the fourth quarter of 1968 breakpoint. They confirm that the pattern for unemployment for Democratic presidencies reported in the first diagram in table 3 holds only in the earlier subsample. Although a single breakpoint is questionable because structural change was gradual, we continue to use the fourth quarter of 1968 as the breakpoint given the simplicity of identifying a single date and the attractiveness of cleanly splitting two consecutive Democratic administrations from two consecutive Republican ones.

Finally, other sensitivity tests were performed. These additional re-specifications had only minor effects on the coefficients in table 2 and no effect on the conclusions.<sup>17</sup>

<sup>15</sup> The likelihood-ratio statistic for testing the null hypothesis of no structural change is 40, which exceeds the critical chi-square value and supports the hypothesis that structural change is present. The only other difference between the reported results and those revealed by significance tests on the eight macroeconomic variables in the periodized equations involves the effect of inflation during Republican presidencies. The results in table 2 show that if inflation increases when a Republican is president, Republicans become Democrats. This finding holds beginning with the first quarter of 1969, but this coefficient is insignificant in the first period. The absence of evidence for a shift from the Republican to the Democratic party due to inflation in the period before 1969 is not surprising. Inflation reached its lowest level since the Second World War in Eisenhower's two terms, averaging just 1.39% and peaking at 3.3% in 1957. Significant movements from the Republican to the Democratic party only took place during later Republican presidencies, when inflation became much more problematic (during the Ford years, the CPI averaged 8.6% and peaked at 11%).

<sup>16</sup> The three "moving regression" tests for identifying the location of structural change discussed in Isaac and Griffin (1989, p. 879), which follow from Brown, Durbin, and Evans (1975), cannot be performed, because each test drops (or adds) observations as the test proceeds. These shifts in our sample would change our specification, because various presidential and idiosyncratic dummies might be included in some estimates but not in others, making these estimates uncomparable. A limitation of our approach (no matter how many times it is repeated) is that it tests for the location of only one structural break under the assumption that there are no others.

<sup>17</sup> We tested for asymmetrical relationships with separate macroeconomic dummies for downward and upward shifts in unemployment and inflation. These dummies were

## DISCUSSION

## A Summary of Predictions

We now consider how the results fit the hypotheses in table 1. For clarity, their predictions are repeated under the appropriate diagram in table 3. The Democratic party has been more likely to reduce unemployment (and enact programs that alleviate it), so the reputational hypothesis under diagram 1 predicts that identification with the Democratic party should increase after greater unemployment when a Democrat is president. In diagram 4 the reputational hypothesis predicts that Republican identification should increase after greater inflation when a Republican is president, because the Republicans have been more likely to reduce inflation. This hypothesis also predicts that loyalty to the incumbent party should suffer when a macroeconomic problem that party has been less likely to handle worsens, so its predictions are negative in diagrams 2 and 3.

The performance hypothesis predicts that affiliation with the incumbent party will fall if unemployment or inflation increase during its tenure, regardless of party reputation, so performance predictions are negative in all four diagrams. The competitive predictions under diagrams 1 and 4 show that the performance and the reputational hypotheses predict opposite movements in identification when unemployment goes up during Democratic presidencies or when inflation goes up during Republican presidencies. The predictions under diagrams 2 and 3 show that these hypotheses reinforce one another when inflation increases during a Democrat's tenure or when unemployment increases during a Republican presidency.

---

multiplied by the appropriate upward or downward movement in the macroeconomic variable, but no divergent effects were found. Including dummies for the initial quarters of a presidency to control for "honeymoons" or using dummies to control for an election year also had negligible effects. Following Smyth and Taylor (1992), we squared the macroeconomic variables, but this respecification did not change the conclusions. Using the lagged dependent variable on the right side also left the findings intact. Including real growth in GNP distinguished by presidential party did not alter the results. Significance tests on unemployment and inflation in the model with real growth show patterns identical to those reported in table 2, while the magnitude of these coefficients are remarkably similar to their reported values. Likelihood-ratio tests reveal that adding real GNP does not improve the model's fit but adding unemployment to real growth and inflation does significantly enhance explanatory power. Finally, to proxy support for presidents, we include the percentage of Democrats in the House and Senate. The likelihood-ratio test shows that these variables improve the model's fit, yet the estimates remain extremely similar to those in table 2. Still, we are skeptical about this specification since party identification is more likely to determine the percentage of Democrats in Congress (see the discussion of electoral implications in the conclusion).

### Competitive Tests in Diagrams 1 and 4

According to the competitive test in diagram 1 based on the full sample, when unemployment increases during a Democratic presidency, a significant percentage of independents shift to the Democratic party. This finding offers clear support for the reputational hypothesis, so its prediction under diagram 1 is noted with a "†." Perhaps the party's reputation, established by the New Deal's apparent success with unemployment, was vivid enough to cause large numbers of people to shift to this party when unemployment became burdensome decades later (Nie, Verba, and Petrocik [1979] and Sundquist [1983] support this interpretation). The Democratic party's willingness to expand unemployment benefits and other relief programs also may help to account for this finding (Hibbs 1987). The marginal probability values suggest that independents also move to the Republican party in this situation. Some independents seem to respond to the Democratic party's historical record but others do not.

The dissimilar findings when the coefficients on the macroeconomic variables were split by period also support an explanation based on the prominence of the New Deal reforms. Recall that the pattern illustrated in diagram 1 in table 3 holds before the fourth quarter of 1968 but was not present in Carter's single term in the last period of the split sample. This historically contingent result suggests the reputational hypothesis is best able to explain identification shifts due to unemployment during a Democratic presidency in the period closest to the New Deal. This finding makes the reputational effect more credible, because the Democratic party's success with unemployment during the 1930s should have been most salient for respondents in the earlier years analyzed in this study.

The results in diagram 4 show that the performance hypothesis does much better than the reputational hypothesis in this competitive test. When inflation increases during Republican presidencies, many prior Republican identifiers disregard the Republican reputation for successfully handling inflation and shift to the Democrats. The marginal probabilities also suggest that Republican defectors are slightly more likely to become independents than Democrats. Inflation when a Republican is president evidently leads to shifts from one political party to the other.

### Reinforcing Effects in Diagrams 2 and 3

Democratic identifiers appear indifferent to inflation. Diagram 3 shows that increased inflation has insignificant effects on allegiance to this party (and other identification shifts) during a Democratic presidency. This finding is consistent with the distributive explanation for partisanship. Work on the allocative effects of macroeconomic outcomes shows that

the relative shares of the lowest three-fifths of the income distribution are not reduced by inflation (Blank and Blinder 1986). Inflation does not hurt the relative standing of the primary supporters of the Democratic party, so it is not surprising that higher inflation has no effect on identification during this party's tenure. Finally, the performance and reputational hypotheses both predict defections when the incumbent party has trouble with a macroeconomic outcome it has not handled well in the past. The losses experienced by the Republicans after increased unemployment during their presidencies, shown in diagram 2, therefore support both hypotheses.

A summary from left to right across the diagrams leads to the following conclusions: The evidence from the full sample (and the earlier sample) for shifts from independent to Democratic identification in diagram 1 fits only the reputational prediction. The decline in Republican identification in diagram 2 supports both the reputational and the performance hypotheses. The absence of political movements due to inflation during a Democratic presidency in diagram 3 supports neither hypothesis, but it implies that the generally less affluent democratic supporters are indifferent to this outcome. Finally, the defections from the Republican party shown in diagram 4 after inflation during a Republican presidency support the performance hypothesis.

### A Supplemental Test of Inflation Effects

The prior results suggest that the effects of unemployment are more important than inflation. Hibbs (1987) also finds that, in comparison to inflation, unemployment has a greater influence on presidential popularity. According to diagrams 3 and 4, although increased inflation during a Republican presidency leads to defections from this party, inflation during a Democrats' tenure does not lead to shifts in political identification. Yet diagrams 1 and 2 show that unemployment has significant effects on party identification no matter which party holds office. Evidently, higher inflation only alters political loyalties when the incumbent is a Republican, but increased unemployment leads to important identification shifts when either party holds the presidency.

Hibbs concludes that inflation is a weak predictor of presidential popularity because people do not hold presidents responsible for outcomes they cannot control. During the analysis period, two major surges in inflation resulted from OPEC oil price increases. According to Hibbs, the electorate should not blame the president or his party for these exogenous effects. We tested this explanation by regressing inflation on contemporaneous and lagged (out to three quarters) inflation computed from an international energy price index. The residuals from this equation then were

substituted for inflation in supplementary multinomial logit analyses of party identification. If people only hold the president and his party accountable for the domestic causes of inflation, after the effects of exogenous energy shocks have been removed, the coefficients for inflation should increase in significance. The findings (omitted for brevity) did not support this expectation. In every cases, substituting this residual reduced the coefficients. Such results imply that the weak inflation effects on party identification probably cannot be explained by a hypothesis that people only blame the president's party for the domestic causes of inflation.

## CONCLUSIONS

### Methodological Issues

Many significant relationships would be obscured if we used more conventional techniques. By separating the effects of the macroeconomic variables by party in office, the implications of distributive theories of partisanship that predict opposite relationships between macroeconomic outcomes and identification could be tested. If these effects were not isolated, the macroeconomic explanatory variables would be forced to have the same effects across parties and substantively important distinctions would be concealed. We also used the same technique to see if the coefficients on the macroeconomic variables differ from one period to another and found interesting contrasts.

Another innovation with important effects involved the inclusion of independents and the use of multinomial logit to map net identification shifts between all three choices under various conditions. A study that ignored independents would falsely conclude that increased unemployment during a Democratic presidency leads to net shifts from the Republican to the Democratic party. Our exhaustive analysis of the three identification choices shows that only independents move. If unemployment increases when a Democrat is president, more independents shift to the Democratic party than to the Republican party, but there are no significant net movements between the parties. For this and other reasons, independents should be included in analyses of political identification.

### A Summary of the Results

This research developed hypotheses about the relationship between macroeconomic conditions and identification. If people give parties credit for their past successes (and the Democrats' willingness to enact relief programs), the reputational hypothesis should be supported. If people

respond only to current conditions, macroeconomic problems should cause defections from a president's party, and the performance hypothesis should be supported. We found evidence for each of these contingencies.

The results suggest that when unemployment increased during Democratic presidencies, this party's reputation mattered because it experienced an increase in identification. Probably the New Deal's apparent conquest of unemployment and support for relief programs led to a belief that the Democratic party is the best remedy for unemployment even during Democratic presidencies years later (Nie et al. 1979). The dominance of the reputational finding in the first half of the sample, when respondents were most likely to recall the New Deal, provides additional evidence for this interpretation. But the performance hypothesis explains identification shifts if inflation increased when a Republican was president. Instead of moving to the low-inflation party, people left the Republicans, although the results of the tests for structural change suggest that this effect was most important during the Republican administrations in the latter half of the sample. Finally, respondents appear to be indifferent to inflation during a Democratic presidency, but unemployment during a Republican term reduces identification with this party.

### An Explanation for the Findings

One way to understand these results involves the informational requirements of the two hypotheses. The results in diagrams 2 and 4 in table 3 show that the performance hypothesis always predicts the correct sign of the change in identification when the Republican party holds the presidency, although this change in identification is reinforced by reputational effects when unemployment increases during Republican presidencies. In part because the Republican party relies on the affluent and appeals to this smaller constituency with less popular macroeconomic policies (Hibbs 1987), it has remained in the minority. If they are to be successful, Republican presidential candidates must therefore receive substantial Democratic and/or independent support.

The reputational hypothesis requires more information about politics than the performance alternative because people must respond to a party's historical record. Yet the marginal Democrats and independents who are most liable to become Republicans will be less likely to meet this requirement. Both Keith et al. (1992, p. 45) and Campbell et al. (1960) show that weak Democrats and independents know less about politics than strong Democrats, yet weak Democrats and independents are more likely to switch to the Republican party. The reputational hypothesis requires knowledge about complicated matters that may have

occurred in the distant past. If people shift to a party because it has a better reputation for dealing with a macroeconomic problem even when a president from that party is not handling that problem well, their understanding of past differences in partisan macroeconomic policies probably is superior to those who act as the performance hypothesis predicts and leave the incumbent party when the economy becomes unsatisfactory.

In comparison to the more knowledgeable strong Democrats who are not as likely to change their affiliation, the less informed weak Democrats and independents who must support the Republican party if it is to win should be more responsive to an administration's current performance. More generally, in contrast to a majority party, a successful minority party has to attract a greater number of independents and weak partisans from the opposite party who know less about politics than strong partisans (Keith et al. 1992). If economic performance declines while a minority party holds the presidency, such a party should be more vulnerable to defections. The reputational hypothesis therefore should not do as well as the performance hypothesis when shifts in minority party identification are analyzed.

### The Electoral Implications of the Findings

The results also suggest that inflation and unemployment are far more costly to Republican presidents who wish to build a coalition based on identification with their party than these problems are for Democratic presidents. Both increased inflation and unemployment during a Republican presidency lead to reductions in identification with that party and significant shifts to the Democrats. Yet inflation when a Democrat is president has no effects on partisanship, and greater unemployment during Democratic presidencies has sometimes led to heightened identification with the Democratic party. This enhanced sensitivity to macroeconomic difficulties during the more numerous Republican presidencies, combined with seven Republican recessions (compared to the Democratic party's single recession), may help to explain why the Democratic party did not lose its identification lead even when Republican presidents achieved their greatest popularity. Minority parties who must rely on marginal supporters evidently find macroeconomic failures to be particularly costly.

These findings about changes in partisanship show one important way that Republicans can be hurt by their macroeconomic agenda, but they do not suggest that Republicans are unable to overcome this disadvantage when they seek political office. Republican candidates can change the subject and stress issues that often hurt Democratic candidates. Exam-

ples include Republican campaign appeals emphasizing anticommunism, race, or lifestyle differences.

The timing of macroeconomic events also is critical (Hibbs 1987). Consider the first and second Reagan elections. Incumbents have a strong advantage, so Carter should have been reelected in 1980. Yet macroeconomic performance was so poor by the last half of Carter's term that Reagan could emphasize the economy and win. The economy was rapidly recovering from the deep 1982–83 recession when Reagan ran against Mondale as an incumbent, so he won by a landslide. In each case current macroeconomic events led marginal partisans and independents who tend to be less informed about politics to vote Republican. The modest 1960 recession that helped Kennedy beat Nixon or the similar 1991–92 recession that cost Bush the presidency are examples of recessions during an election year that hurt Republicans.<sup>18</sup> Republican presidents (or their vice-presidential heirs) can overcome their status as minority-party candidates and win national elections if their recessions occur well before the next election. Republican candidates can beat Democratic presidents if macroeconomic performance has recently been poor or if other issues are more salient.

The costs of Republican macroeconomic failures are more difficult to overcome in congressional elections, however. The results in this paper show that Republicans lose more identifiers than Democrats if either inflation or unemployment become problematic during their administrations. When voters have limited knowledge, they typically vote for their party's candidates (MacKuen et al. 1989). In comparison to their information about presidential elections, voters know much less about House and Senate races, so party identification becomes more important in these contests. The greater number of Democratic identifiers during the analysis period (see fig. 1) undoubtedly helped the Democrats maintain majorities in both houses for most of this time. It follows that effect on the partisan makeup of Congress may well be the most important practical implication of our finding that macroeconomic failures during Republican administrations significantly reduce Republican party identification.

Finally, this research also shed light on new research about political

<sup>18</sup> The reputational and the performance hypotheses may also help to explain a puzzle about the 1992 presidential election. Given all the advantages of incumbency, why did Bush lose when unemployment was only 1.2% above the mean (7.5% compared to a mean of 6.3%) since 1953? Perhaps this puzzle can be partly explained by the fact that these two hypotheses reinforce one another and reduce the Republican vote when unemployment is substantial. When a Republican administration encounters high and persistent unemployment during a presidential election, the electorate is confronted by both inferior performance and an incumbent party with a poor reputation for handling this problem.



independents. Keith et al. (1992) argue that many independents are more likely to vote for a political party than respondents who identify as weak partisans. The shifts into and out of the independent category depicted in table 3 reveal some of the macroeconomic and political conditions that lead marginal independents to identify with a party and marginal partisans to leave a party and identify as independents.

Because partisanship is based on enduring attachments, longitudinal studies that isolate the determinants of aggregate shifts in party identification provide an enhanced understanding of how historical events shape electoral outcomes. Studies that uncover the historical links between macroeconomic conditions, presidential popularity, and party identification when different parties hold the presidency show how political coalitions shift over time and how different groups gain control over the state. This study demonstrates that the recent sociological emphasis on quantitative approaches to historical change can be fruitfully applied to questions about partisanship and electoral politics. We hope political sociologists will again study these issues.

## REFERENCES

- Abramson, Paul R., and Charles W. Ostrom. 1991. "Macropartisanship: An Empirical Reassessment." *American Political Science Review* 85:181-92.
- Alesina, Alberto. 1988. "Macroeconomics and Politics." Pp. 13-52 in *Macroeconomics Annual*, edited by Stanley Fischer. Cambridge, Mass.: MIT Press.
- Alesina, Alberto, and Jeffrey Sachs. 1988. "Political Parties and the Business Cycle in the United States." *Journal of Money, Credit, and Banking* 20:63-82.
- Bishop, George F., Alfred J. Tuchfarber, and Andrew E. Smith. 1993. "Question Form and Context Effects in the Measurement of Partisanship." Paper presented at the annual meeting of the American Political Science Association, Washington, D.C.
- Blank, Rebecca, and Alan Blinder. 1985. "Macroeconomics, Income Distribution, and Poverty." Pp. 180-208 in *Fighting Poverty*, edited by Sheldon Danziger and Daniel Weinberg. Cambridge, Mass.: Harvard University Press.
- Blinder, Alan, and Howard Y. Esaki. 1978. "Macroeconomic Activity and Income Distribution in the Postwar United States." *Review of Economics and Statistics* 60:604-9.
- Bodie, Zivi. 1976. "Common Stocks as a Hedge against Inflation." *Journal of Finance* 31:459-70.
- Brody, Richard. 1978. "Change and Stability in the Components of Party Identification." Paper presented at the National Science Foundation conference, Tallahassee, Fla.
- Brown, R., J. Durban, and J. Evans. 1975. "Techniques for Testing the Constancy of Regression Relations over Time." *Journal of the Royal Statistical Society* 37: 149-92.
- Bureau of the Census. 1989. *Statistical Abstract of the United States*. U.S. Department of Commerce. Washington, D.C.: Government Printing Office.
- . 1992. *Survey of Current Business*. U.S. Department of Commerce. Washington, D.C.: Government Printing Office.

- Campbell, Angus, Phillip E. Converse, Warren Miller, and Donald E. Stokes. 1960. *The American Voter*. New York: Wiley.
- Chappell, Henry W. 1990. "Economic Performance, Voting, and Political Support: A Unified Approach." *Review of Economics and Statistics* 72:313–20.
- Chappell, Henry W., and William R. Keech. 1986. "Policy Motivation and Party Differences in a Dynamic Spatial Model of Party Competition." *American Political Science Review* 80:881–99.
- . 1988. "The Unemployment Rate Consequences of Partisan Monetary Policies." *Southern Economic Journal* 55:107–22.
- Dennis, Jack. 1988a. "Political Independence in America, Part I: On Being an Independent Partisan Supporter." *British Journal of Political Science* 18:77–109.
- . 1988b. "Political Independence in America, Part II: Towards a Theory." *British Journal of Political Science* 18:197–219.
- Devine, Joel. 1985. "State and State Expenditure: Determinants of Social Investment and Social Consumption Spending in the United States." *American Sociological Review* 50:150–65.
- Edwards, George C., with Alec Gallup. 1990. *Presidential Approval: A Sourcebook*. Baltimore: Johns Hopkins University Press.
- Feldstein, Martin S. 1980. *The American Economy in Transition*. Chicago: University of Chicago Press.
- Fiorina, Morris P. 1981. *Retrospective Voting in American National Elections*. New Haven, Conn.: Yale University Press.
- Goodman, Stanley, and Gordon Kramer. 1975. "Comments on Arcelus and Meltzer: The Effect of Aggregate Economic Conditions on Congressional Elections." *American Political Science Review* 69:1255–65.
- Gordon, Robert. 1990. *Macroeconomics*. Harper Collins.
- Greene, William H. 1993. *Econometric Analysis*. New York: Macmillan.
- Griffin, Larry, Joel Devine, and Michael Wallace. 1982. "Monopoly Capital, Organized Labor and Military Expenditures in the United States, 1949–1976." *American Journal of Sociology* 88:S113–S153.
- . 1983. "On the Economic Determinants of Welfare Spending in the Post-World War Two Era." *Politics and Society* 12:331–72.
- . 1985. "One More Time: Militarizing the U.S. Budget: Reply to Jencks." *American Journal of Sociology* 91:384–91.
- Griffin, Larry, Michael Wallace, and Joel Devine. 1982. "The Political Economy of Military Spending: Evidence from the United States." *Cambridge Journal of Economics* 6:1–14.
- Hausman, Jerry, and Daniel McFadden. 1984. "Specification Tests for the Multinomial Logit Model." *Econometrica* 52:1219–40.
- Haynes, Stephen E. 1992. "Electoral and Partisan Cycles between U.S. Economic Performance and Presidential Popularity." Manuscript. University of Oregon, Department of Economics.
- Haynes, Stephen E., and Joe Stone. 1990. "Political Models of the Business Cycle Should Be Revived." *Economic Inquiry* 28:442–65.
- Hibbs, Douglas A. 1977. "Political Parties and Macroeconomic Policy." *American Political Science Review* 71:1467–87.
- . 1982a. "On the Demand for Economic Outcomes: Macroeconomic Performance and Political Support in the United States, Great Britain, and Germany." *Journal of Politics* 44:426–62.
- . 1982b. "The Dynamics of Political Support for American Presidents among Occupational and Partisan Groups." *American Journal of Political Science* 26:312–32.
- . 1987. *The American Political Economy*. Cambridge, Mass.: Harvard University Press.

- Hicks, Alexander. 1984. "Elections, Bureaucracy and Class: Explaining the U.S. Budget Deficits, 1961-1978." *American Sociological Review* 49:165-82.
- Hout, Mike, Clem Brooks, and Jeff Marza. 1993. "The Persistence of Class in Post-Industrial Societies." *International Sociology* 8:259-77.
- Isaac, Larry W., and Larry J. Griffin. 1989. "Ahistoricism in Time-Series Analysis of Historical Process." *American Sociological Review* 54:873-90.
- Jacobs, David. 1988. "Corporate Economic Power and the State: A Longitudinal Assessment of Two Explanations." *American Journal of Sociology* 93:852-81.
- Janowitz, Morris. 1981. "Mass Media: Institutional Trends and Their Consequences." Pp. 303-21 in *Reader in Public Opinion and Mass Communication*, edited by Morris Janowitz and Paul Hirsch. New York: Free Press.
- Keith, Bruce E., David R. Magleby, Candice J. Nelson, Elizabeth Orr, Mark Westley, and Raymond E. Wolfinger. 1992. *The Myth of the Independent Voter*. Berkeley and Los Angeles: University of California Press.
- Key, V. O. 1949. *Southern Politics*. New York: Vintage.
- Kiewiet, D. Roderick. 1981. "Policy-Oriented Voting in Response to Economic Issues." *American Political Science Review* 75:448-59.
- Kiser, Edgar, and Michael Hechter. 1991. "The Role of General Theory in Comparative-historical Sociology." *American Journal of Sociology* 97:1-30.
- Knoke, David. 1972. "A Causal Model for the Political Party Preferences of American Men." *American Sociological Review* 37:679-89.
- . 1974. "A Causal Synthesis of Sociological and Psychological Models of American Voting Behavior." *Social Forces* 53:92-101.
- Knoke, David, and Michael Hout. 1974. "Social and Demographic Factors in American Political Party Affiliations, 1952-72." *American Sociological Review* 39:700-13.
- MacKuen, Michael B., Robert S. Ericson, and James A. Stimson. 1989. "Macropartisanship." *American Political Science Review* 83:1125-42.
- Macy, Michael W. 1990. "Learning Theory and the Logic of the Critical Mass." *American Sociological Review* 55:809-26.
- . 1991. "Chains of Cooperation: Threshold Effects in Collective Action." *American Sociological Review* 56:730-47.
- Mann, Michael. 1986. *The Sources of Social Power*. Cambridge: Cambridge University Press.
- March, James G., and Herbert Simon. 1958. *Organizations*. New York: Wiley.
- Meltzer, Allan H., and Marc Vellrath. 1975. "The Effects of Economic Policies on Votes for the Presidency." *Journal of Law and Economics* 18:781-98.
- Miller, Arthur H., and Martin P. Wattenberg. 1983. "Measuring Party Identification: Independent or No Partisan Preference." *American Journal of Political Science* 27:107-21.
- Milstein, Jeffrey. 1974. *Dynamics of the Vietnam War*. Columbus: Ohio State University Press.
- Minarik, Joseph J. 1979. "The Size Distribution of Income during Inflation." *Review of Income and Wealth* 25:377-92.
- Nie, Norman H., Sidney Verba, and John R. Petrocik. 1979. *The Changing American Voter*. Cambridge, Mass.: Harvard University Press.
- Niemi, Richard G., and M. Kent Jennings. 1991. "Issues and Inheritance in the Formation of Party Identification." *American Journal of Political Science* 35:970-88.
- Ragin, Charles, and David Zaret. 1983. "Theory and Method in Comparative Research: Two Strategies." *Social Forces* 61:731-54.
- Schlozman, Kay, and Sidney Verba. 1979. *Insult to Injury*. Cambridge, Mass.: Harvard University Press.
- Shively, W. Phillips. 1980. "The Nature of Party Identification: A Review of Recent

- Developments." Pp. 219–36 in *The Electorate Reconsidered*, edited by John C. Pierce and John L. Sullivan. Beverly Hills, Calif.: Sage.
- Skocpol, Theda. 1985. "Bringing the State Back In: Strategies of Analysis for Current Research." Pp. 3–43 in *Bringing the State Back In*, edited by Peter Evans, Dietrich Rueschemeyer, and Theda Skocpol. Cambridge: Cambridge University Press.
- Smyth, David, and Susan Taylor. 1992. "Inflation-Unemployment Trade-Offs of Democrats, Republicans, and Independents: Empirical Evidence on the Partisan Theory." *Journal of Macroeconomics* 14:47–57.
- Sundquist, James L. 1983. *Dynamics of the Party System*. Washington: Brookings Institute.
- Swank, O. H. 1993. "Popularity Functions Based on Partisan Theory." *Public Choice* 79:339–56.
- Treas, Judith. 1983. "Trickle Down or Transfers? Postwar Determinants of Family Income Inequality." *American Sociological Review* 48:546–59.
- Weakliem, David L. 1991. "The Two Lefts: Occupation and Party Choice in France, Italy, and the Netherlands." *American Journal of Sociology* 96:1327–61.

# **The Ecological Dynamics of Careers: The Impact of Organizational Founding, Dissolution, and Merger on Job Mobility<sup>1</sup>**

Heather A. Haveman  
*Cornell University*

Lisa E. Cohen  
*University of California, Berkeley*

This article unites social mobility and organizational ecology research and develops an ecological theory of career mobility. The vital events of organizational populations (founding, dissolution, and merger) cause substantial shifts in populations of employing organizations and jobs, thereby greatly altering opportunity structures. Founding creates jobs; dissolution and merger destroy jobs. These processes have strong direct effects on employees in new and failed organizations. Moreover, these processes have strong indirect effects on employees in other organizations, which can be best understood by extending vacancy-chain models to encompass industry dynamics. Analysis of job mobility in one industry generally supports the theory.

People change jobs frequently over the course of their work lives. Studies conducted at Ohio State University estimated that 7%–23% of American workers shift employers in any given year (e.g., Parnes et al. 1970; Parnes, Egge, and Andrisiani 1973). Hall (1982) estimated that over 28% of American workers held their current jobs one year or less; this figure implies an overall job-shift rate—including both within- and between-firm moves, but not counting entries into the labor force—of about 25%

<sup>1</sup> We thank the Center for Real Estate and Urban Economics of the Hass School of Business at the University of California, Berkeley and the Fuqua School of Business at Duke University for their financial support. We gratefully acknowledge the comments of Wayne Baker, Jim Baron, Glenn Carroll, Tom DiPrete, Mike Hannan, Arne Kallegerg, Anne Miner, Andy Newman, Elaine Romanelli, and the participants of the Triangle Area Organizations and Stratification Seminar Series. We greatly appreciate the research assistance of Joseph Broschak. Correspondence may be addressed to Heather Haveman, Cornell University, Johnson Graduate School of Management, Malott Hall, Ithaca, New York 14853-4201.

per year. To explain these job shifts, most research has focused on individual attributes, such as education and workforce experience (e.g., Blau and Duncan 1967; Featherman and Hauser 1978), or on the features of employing organizations, such as firm size and technology, the development of internal labor markets (ILMs), and industrial sector (e.g., Doeringer and Piore 1971; Baron and Bielby 1980). We propose that a new and hitherto ignored set of factors can explain much of the variation in individual career movement. The vital processes of employing organizations—founding, dissolution, and merger—have strong effects on the career paths of individual employees. This proposition grows out of the speculations of Hannan (1988) and of Carroll, Haveman, and Swaminathan (1992). It builds on the modest empirical evidence we have concerning the relationship between industry dynamics and individual career outcomes (e.g., Roos 1978; U.S. Small Business Administration 1983; Birch 1987; Leonard 1987; DiPrete 1993). Using aggregate data from studies of labor-market dynamics, Carroll et al. (1992) estimated that job shifts caused by organizational founding and failure processes constitute 25%–55% of all individual mobility; moreover, they argued that these processes account for virtually all downward movement, which generally occurs in job shifts from one firm to another. Given this evidence, there is a clear need to investigate further the link between industry dynamics and individual job shifts.

The research agenda pursued here is explicitly dynamic and nonequilibrium, in contrast to the static, equilibrium approaches that constitute the bulk of previous research on careers. Although the dependent variable in much previous research has been change in employment status or earnings, the independent variables representing the structure of labor markets have been, for the most part, static: they reflect labor-market structure in the cross section or at equilibrium, not change in this structure. Two emerging streams of research examine the impact of labor-market dynamics on career processes. One branch examines the effects of change in existing organizations: organizational growth and contraction (e.g., Stewman and Konda 1983; Rosenbaum 1979), technological innovation (e.g., Mark 1987; Hedström and Wallin 1988), and the evolution of jobs over time (e.g., Miner 1990, 1991). Such research recognizes that jobs are created and destroyed, although it implicitly takes an adaptationist perspective and assumes that organizations are permanent fixtures in labor markets. A second branch goes further by taking a selection perspective and studying the large-scale processes that drive the founding and failure of entire organizations and, therefore, the creation and destruction of their constituent jobs. Research on the impact of modernization and industrial turbulence (e.g., Blossfeld 1986; Birch 1987; DiPrete 1993) recognizes that not only do employing organizations change over

time, they are born and die. Our article extends this selectionist and fully dynamic research program by tying industry dynamics directly to the creation and destruction of jobs that occurs when employing organizations are founded and fail, thereby tying industry dynamics directly to career processes.

This article's emphasis on industry dynamics links the study of careers in organizations to a thriving research stream in organization theory, organizational ecology (Hannan and Freeman 1989). There has been some call for theoretical analysis and empirical investigation to link these two subjects. Stewman (1988, pp. 180–81) recognized the potential for complementarity: "To date, organizational ecologists have focused on organizational death rates but have not been informative about the impacts on jobs or persons. A natural extension would be to specify further the concomitant job death rates, thus tying together micro and macro processes." In a similar vein, in his study of changing labor-market structures in Germany, Blossfeld (1986, p. 223) asserted that "the creation of vacancies and the loss of positions in the course of structural change is the central mechanism of career mobility." Organizational founding and failure are core elements of social-structural change (Hannan and Freeman 1989) and thus are major forces driving the creation and destruction of jobs. Structuralist models of career mobility can be enriched by incorporating the processes of organizational evolution that create and destroy jobs.

This article accomplishes a second important task. It brings to light a new set of phenomena for empirical investigation by organizational ecologists. We expand the scope of research in organizational ecology to encompass more than just population processes such as rates of organizational founding, failure, and change. We move closer to achieving one of the original goals of organizational ecology, namely, to bring the study of organizations back into the mainstream of sociology by reorienting research on organizations so that it speaks to fundamental problems of social organization and social change (Hannan and Freeman 1989, pp. 1–44). The ecological paradigm is well suited to address the question of how macro social structure influences micro outcomes through the medium of formal organizations (McPherson 1983).

The next section reviews previous sociological research on career mobility, focusing on studies that investigate how the dynamics of socioeconomic structures influence the opportunity structures facing individuals and, hence, their career paths.<sup>2</sup> We then examine the literature on organi-

<sup>2</sup> We do not review the vast literature on the impact of individual characteristics (e.g., sex, race, education, and family background) or organizational characteristics and dynamics (e.g., size, technology, and growth) on mobility and socioeconomic attainment. For a recent review, see Rosenfeld (1992).

zational ecology as it pertains to labor-market dynamics and develop an ecological theory of career mobility that links the evolution of organizational populations to shifts in populations of jobs and thus to individuals' career paths. Next, we describe the site of this study (managerial jobs in the savings and loan industry in California) and explain the models we estimate. After presenting and interpreting results, we discuss the implications of our findings for research on career mobility and organizational ecology.

## STRUCTURAL DYNAMICS AND CAREER MOBILITY

A career has typically been defined as a sequence of jobs held by an individual, with associated status and financial rewards. We do not use the term *career* prescriptively to denote an orderly sequence of development and upward mobility (cf., Wilensky 1961; Slocum 1966). Instead, our usage follows that of Spilerman (1977); it is descriptive and encompasses work histories that do not exhibit an orderly, progressive pattern within one organization. Sociological research on careers has generally focused on the shifts in jobs that constitute a career (Rosenfeld 1992). Consistent with this approach, in this article we study rates of job mobility, both within and between employing organizations.

Structural research on career mobility can be classified according to the degree to which it admits that the opportunity structures facing individuals change over time. Most studies assume that employing organizations are permanent fixtures and that jobs are stable. Hence, they view opportunity structures as static or at equilibrium. Some studies allow that jobs are created and destroyed through such processes as organizational growth and decline, technological innovation, or the social evolution of jobs (e.g., Stewman and Konda 1983; Hedström and Wallin 1988; Miner 1991). Here, opportunity structures are viewed as being somewhat dynamic, since the population of jobs changes, although the population of employing organizations is stable. Finally, a small but growing number of studies recognize that employing organizations are born and die, causing the wholesale creation and destruction of jobs (e.g., Blossfeld 1986; DiPrete 1993; Korn and Baum 1994). These studies treat opportunity structures as entirely dynamic, because they recognize that the population of employing organizations changes over time.

Trends in economic and social systems have been linked to social mobility in several studies. Blossfeld (1986) and Sørensen and Blossfeld (1989) linked the career attainment of German males from three birth cohorts to movement along the path of modernization and the cyclical development of labor markets. Historical changes in the structure of the German labor market since World War II had strong effects on career



mobility. In a related study, Allmendinger (1989) traced how economic and political developments in Norway, the United States, and West Germany between 1930 and 1970 affected the career trajectories of men born around 1930. Her primary focus was cross-national comparison; however, she investigated one economic trend variable, yearly change in GNP, and found that increases in GNP signaled favorable labor-market conditions and stimulated mobility rates. Similarly, DiPrete (1993) showed that changes in the labor-market structure of the United States during the last decade, specifically industry growth, contraction, and reorganization, influenced rates of unemployment and mobility within and across employing organizations. All of these studies are very macroscopic in that they investigate aggregate shifts in the structure of social and economic systems.

Such aggregate analyses have a serious limitation, however. They can provide only a partial picture of the relationships between socioeconomic dynamics, the evolution of populations of jobs, and the movement of individuals between jobs, because they cannot incorporate information on employing organizations. Proponents of the new structuralism in stratification and social mobility research have argued persuasively that organizations play the dominant role in career outcomes (Stolzenberg 1978; Baron and Bielby 1980). Jobs and careers are embedded in organizational structures, and these structures strongly affect individual mobility (Granovetter 1986). Firms are the key intermediaries linking the micro and macro dimensions of work organization and stratification (Hannan 1988). Accordingly, much research over the past 15 years has investigated the roles played by the demography of employees and by organizational structure in determining job mobility (Stewman 1988; Rosenfeld 1992). Research on labor-market dynamics, therefore, must recognize that changes in the population of employing organizations connect macro structural changes to individual mobility.

In contrast to highly aggregated studies of labor-market dynamics, studies of plant openings and closings (e.g., Leonard 1987) and organizational start-ups (e.g., Birch 1981, 1987) do incorporate information on specific employing organizations. Hence, these studies are able to examine how industry dynamics affect the availability of various types of jobs and therefore individual job mobility. But these studies are primarily descriptive in nature. They seek to demonstrate the existence of labor-market volatility caused by organizational founding and failure without applying sociological or economic theories to explain how such organizational dynamics translate into career mobility processes and socioeconomic attainment.

In conclusion, recent trends in research on career mobility demonstrate

that attending to changes in opportunity structures facing individuals will explain much social mobility. But previous research is limited, either by lack of information on employing organizations, which link macro structural dynamics to individual mobility, or by lack of a theoretical explanation of causal processes. Clearly the time has come to link theories of careers to theories of organizations and to develop an ecological theory of career processes. The need for a synthesis of research on careers and organizational dynamics is by no means novel. Spilerman (1977) showed that career paths are shaped by the organizational demography of the labor market (i.e., by the distribution of employing organizations and changes in this distribution, meaning which industries and organizational populations are expanding and which are contracting). Research in organizational ecology investigates precisely these outcomes: organizational founding and failure processes and the expansion, decline, and demographic evolution of organizational populations. Hence, organizational ecology can be expected to provide answers to the question of how industry dynamics affect the careers of individuals.

#### AN ECOLOGICAL THEORY OF CAREER MOBILITY

Organizational ecology research has focused on two main outcomes for organizations: founding and failure. Very little work has turned organizational ecology on its head and examined the consequences of these processes for organizational communities, single organizations, or individual organization members. One notable exception is the work of McPherson (e.g., 1983), who has used ecological models to tie together macro-structural theory and the micro-structural dynamics of organizational demography. McPherson modeled dynamic processes that link the structure of interorganizational communities and the demographic makeup of single organizations, using ecological theory to make sense of the environment from which organizations draw their members. Another exception is the growing number of studies examining the impact of organizational founding and failure processes on the evolution of organizational size distributions (e.g., Hannan and Ranger-Moore 1990).

Ecological theorists recognize the need to expand the scope of research in organizational ecology to explain more than just rates of organizational founding and failure. Hannan and Freeman (1989, pp. 1–44) stated that one goal of organizational ecology is to bring the study of organizations back into the mainstream of sociology by reorienting research on organizations so that it addresses fundamental problems of social organization and social change. They argued that understanding the dynamics of organizations will help us understand processes of social change. To date,

however, little has been done to link ecological processes to other areas of sociological inquiry. This article attempts to fill this gap in the literature by linking organizational ecology to one important area of research in sociology: social stratification and mobility. The call for applying ecological models to explain stratification and mobility is not new. Indeed, Duncan and Schnore (1959) recognized that the community ecology perspective (Hawley 1950), upon which much of current organizational ecology builds, holds great promise for explaining change over time in stratification systems.

A number of ecological processes affect patterns of social mobility by creating new jobs and eliminating old jobs. These processes include organizational growth and decline; organizational founding, failure, and merger; and organizational restructuring. Propositions about how and why these industry dynamics are related to individual mobility can be derived by building on vacancy-chain and vacancy-competition models (White 1970; Sørensen 1975, 1977).

The vacancy-chain model views jobs as relatively stable socio economic positions, independent of the individuals who occupy them. When an incumbent leaves a job, a vacancy is created. This vacancy is filled when someone new enters the job. If the newcomer moves from another job (rather than entering the labor force for the first time), his or her move causes the vacancy to shift to his or her former job. Within any organization, chains of employees move in one direction and chains of job vacancies move in the other direction. Vacancy chains are closed when jobs are filled by individuals entering the organization from outside—from school, another organization, or unemployment—or when the last vacant job is abolished. Although the vacancy-chain model was constructed within the confines of single organizations, Stewman (1975) argued that the model can be viewed as a system model rather than a formal organizational model, so it may be applied to internal and external labor markets. This accords with White's (1970, pp. 17–18) statement that career processes operate in systems of jobs that are not usually confined to a single organization. The vacancy-chain model encompasses situations in which job vacancies pull people up within organizations and situations in which vacancies pull people across organizational boundaries. Although this model allows for the creation and destruction of jobs, it is formulated within the boundaries of a system of stable employing organizations. White also says, however, that "men have long work lives as measured on a time scale appropriate to social structures. Most organizations have shorter lives than men" (1970, p. 3). It is reasonable, then, to extend the vacancy-chain model to recognize that organizational systems are unstable and that industry structure shifts as new organizations are born and established organizations die, causing the

large-scale creation and destruction of jobs and thus the opening and closing of job vacancies.

### Organizational Founding and Career Mobility

Organizational founding will have both direct and indirect effects on career mobility. Consider the direct effects first. When organizations are founded, new jobs and therefore new vacancies are created. These new vacancies must, obviously, be filled externally because fledgling ventures start with no personnel. One likely source for staff is other firms in the same industry. Hence, individuals will move out of established organizations and into start-ups. The magnitude of the direct impact of organizational founding on interorganizational mobility depends on two factors. First, the founding of each new organization will create a number of vacancies proportional to the size of the new venture. Second, new firms will draw on the personnel of established firms in the industry to the extent that employees in an industry possess industry-specific knowledge and skills that are valuable to new ventures. Hence, the larger the newly founded organizations and the stronger the industry-specific skills, the more organizational founding will directly affect interorganizational mobility.

The movement of personnel out of established organizations and into newly founded organizations creates vacancies in established organizations. These vacancies are likely to be filled internally. Here we see the indirect effect of organizational founding on intraorganizational mobility. These vacancy chains, which originated in newly founded organizations, will move through established organizations until they are closed by hiring workers from outside the industry or by the elimination of the vacated jobs. It is likely that some of the vacancies in established organizations will be filled by raiding other established organizations for their personnel. Such external hiring is part of the indirect effect of organizational founding on interorganizational mobility.

There is limited empirical evidence about the relationship between organizational founding and interorganizational mobility. Roos (1978) found that the creation of new public-sector organizations in Turkey between 1951 and 1965 had a strong impact on career mobility and job satisfaction for graduates from the Faculty of Political Science. Changes in the opportunity structure generated by organizational founding interacted with trends in education to shape patterns of individual mobility and job satisfaction. The expanded opportunity structure generated by organizational founding attenuated the relationship between course of study and type of work organization for younger cohorts (individuals in early career stages) but not for older cohorts (individuals in later career

stages). Interorganizational mobility increased during the 1951–65 wave of organizational births and decreased again when this wave passed (1965–74).

In contrast, Hachen (1992) found that growth in the number of establishments in an industry decreased quit rates and rates of upward movement within firms. Although the emergence of new firms in an industry increases external opportunities, employing firms may respond to heightened competition for workers by increasing wages. The net effect on quit rates may therefore be negative.

Organizational founding is likely to correlate with general economic growth. Thus, organizational founding in one industry may be positively correlated with organizational founding in other industries. As a consequence, organizational founding may appear to be positively related to exits from the focal industry (transfers from the focal industry to other growing industries). But this relationship is spurious and would not appear when models of career mobility control for general economic trends or the dynamics of entire organizational communities (DiPrete 1993; Korn and Baum 1994).

In sum, we offer the following hypotheses:

*HYPOTHESIS 1.—Organizational founding will increase the rate of intraorganizational mobility.*

*HYPOTHESIS 2.—Organizational founding will increase the rate of interorganizational mobility, after controlling for the positive direct effect of moving into newly founded organizations.*

*HYPOTHESIS 3.—Organizational founding will have no effect on the rate of exit from the industry, after controlling for general economic conditions.*

### Organizational Dissolution and Career Mobility

Organizations disappear in two ways: through dissolution or disbanding and through merger with or acquisition by other organizations. Outright organizational dissolution eliminates jobs wholesale. Former employees must seek employment in surviving organizations or leave the labor market. These people may find new jobs in either their current industry or a different industry. The direct effects of organizational dissolution on interorganizational mobility and on exit from an industry (into other industries, into unemployment, or out of the labor force) will therefore be positive.

When employees from disbanded organizations take jobs in surviving organizations, they close vacancy chains. This closure of one section of the opportunity structure redounds on individuals further down the chain of mobility and therefore decreases intraorganizational mobility in sur-

living organizations. This is the first indirect effect of organizational dissolution. Organizational dissolution has a similar indirect effect on interorganizational mobility. After controlling for the positive direct effect on interorganizational mobility (out of dissolved organizations into surviving organizations), the indirect effect on interorganizational mobility will be negative, as the closure of vacancy chains in surviving organizations diminishes the chances of employees moving across organizational boundaries. Finally, the indirect effect of organizational dissolution on exit from the industry is likely to be positive, because organizational dissolution reduces the number of organizations available within the industry for employees to move into and forces employees to seek opportunities outside the industry. Note that, as with organizational birth, organizational failure rates in one industry may mirror general economic conditions. Hence, it is necessary to control for the health of the wider economy in order to be certain that the relationship between organizational dissolution and exits from the industry is not spurious.

In accordance with this reasoning, we offer the following hypotheses about the indirect effects of organizational dissolution on career mobility:

*HYPOTHESIS 4.—Organizational dissolution will decrease the rate of intraorganizational mobility.*

*HYPOTHESIS 5.—Organizational dissolution will decrease the rate of interorganizational mobility, after controlling for the positive direct effect of movement from dissolved organizations into surviving organizations.*

*HYPOTHESIS 6.—Organizational dissolution will increase the rate of exit from the industry, after controlling for general economic conditions and for the positive direct effect of movement from dissolved organizations out of the industry.*

### Organizational Merger and Career Mobility

If organizations disappear through merger or acquisition, the consequences for the movement of employees differ from the consequences of dissolution. When an organization acquires a failing organization, the employees of the acquired organization are forced to change employers, either to the newly merged firm or to a different employer, inside the industry or out. Therefore, merger and acquisition have positive direct effects on interorganizational mobility and exit from the industry.

The employees of acquired firms who take jobs in the surviving (merged) enterprises shut down vacancy chains. When one section of the opportunity structure closes, individuals further down the chain of mobility are frozen in position. Thus, one indirect effect of merger will be to decrease intraorganizational mobility in surviving organizations. After controlling for the positive direct effect of merger on interorganiza-

tional mobility (caused by transfers from acquired to acquiring organizations), the indirect effect may be negative, as the closure of vacancy chains in merged organizations diminishes the chances of attracting employees across organizational boundaries. On the other hand, merger may have a positive indirect effect on interorganizational mobility. Widespread reorganization often follows merger and acquisition, as the companies involved mesh control systems, standard operating procedures, organizational structures, and physical locations (Magnet 1984; Buono and Bowditch 1989, pp. 1–58). Merger may therefore increase mobility into and out of merged organizations. This turbulence would spill over into nonmerged organizations, increasing interorganizational mobility.

Previous empirical research offers some evidence on these matters. In a study directly pertinent to the research site we use in this article, Buono and Bowditch followed the merger of two savings banks in the Northeast in 1981 (Buono and Bowditch 1989, pp. 25–37). They concluded that the strain of organizing to integrate the merger partners had substantial negative impacts on the attitudes and behaviors of individual managers and strongly affected managers' career trajectories. This suggests that merger may increase mobility within, into, and out of merged organizations.

Most research on the relationship between merger and labor processes has been conducted at very high levels of aggregation and hence has not provided much empirical evidence about the impact of merger and acquisition on career outcomes. For example, Brown and Medoff (1988) linked merger and acquisition of firms in Michigan to overall employment levels and wages. They concluded that, on average, only small changes in wages and employment followed merger and acquisition. Brown and Medoff had only net figures (employment levels in merged firms), however, not information on gross flows (entries and exits into the merged firms). Therefore, basic mobility processes were masked in their data.

In a narrower context, Walsh (1988) studied the impact of merger and acquisition on the top management of large firms. He found that the turnover rate of top management was higher in takeover targets in the two years immediately following a merger or acquisition than it was in a control group of nonmerged firms. Similarly, Unger (1986) reported that turnover for top management in a sample of 150 mergers of large U.S. companies was almost 50% in the year following merger. These results indicate support for the thesis that merger and acquisition directly cause a substantial amount of movement between organizations.

Downsizing in employment is also likely to follow merger (Birch 1987, pp. 48–51). Many employees of merged organizations—whether they worked in acquiring or acquired firms—will be forced to seek employment elsewhere. Others will leave hybrid organizations voluntarily. Even

when total employment in merged firms remains comparable to employment in the premerged entities, there is likely to be considerable turnover of old personnel and entry of new personnel (Cartwright and Cooper 1992, pp. 30–50). One journalist estimated that up to one-half of the employees in merged firms will either leave or shift jobs within newly merged companies (Magnet 1984). If employees leaving merged firms find jobs in the same industry, interorganizational mobility will increase. If these people find jobs in other industries, enter the ranks of the unemployed, or leave the labor force, exits from the industry will also increase.

Building on this logic and empirical evidence, we hypothesize that merger has the following indirect effects on career mobility:

**HYPOTHESIS 7.**—*Merger will decrease the rate of intraorganizational mobility.*

**HYPOTHESIS 8.**—*Merger will increase the rate of interorganizational mobility, after controlling for the positive direct effect of transfers from acquired firms into acquiring firms.*

**HYPOTHESIS 9.**—*Merger will increase the rate of exit from the industry, after controlling for the positive direct effect of exits out of acquired firms.*

### Comparative Effects

The magnitude of the effects of industry dynamics will likely be different for different types of moves. Ecological forces can be expected to demonstrate stronger effects on external mobility than on internal mobility. Obviously, organizational birth and death can have no direct effect on internal mobility, just indirect effects carried through mobility chains. These indirect effects are likely to be buffered by the presence of ILMs and by other personnel policies. In addition, moves between firms within any industry may be affected more strongly by industry dynamics than are exits from that industry to other industries or to retirement. Exits from an industry are affected not only by the dynamics of that industry but also by conditions in other industries to which employees might move. Accordingly, we propose the following comparative hypothesis:

**HYPOTHESIS 10.**—*Industry dynamics (birth, dissolution, and merger) will have the most impact on movement between firms within that industry and less impact on exit from the industry and movement within firms in that industry.*

### Interactions

In the sections above, we developed propositions about the main effects of ecological processes on career mobility. These processes are unlikely,



however, to have purely independent effects on the movement of individuals between firms and jobs in any industry. Instead, these ecological processes probably sometimes reinforce and sometimes dampen each other. An industry that experiences a high organizational birthrate coupled with high organizational dissolution and merger rates is obviously in greater turmoil than an industry that experiences a high birthrate and low or moderate dissolution and merger rates: in the first instance, the opportunity structure is changing much more rapidly than in the second instance. Similarly, an industry that experiences low birth, merger, and dissolution rates is far more stable than an industry that experiences a low birthrate and high or moderate dissolution and merger rates: in the first instance, the opportunity structure is changing very little, if at all, while in the second instance, the opportunity structure is changing considerably. The forces generated by organizational founding and failure will likely feed each other; in other words, the effect of a large number of organizational births will depend on the number of organizational dissolutions and mergers and vice versa.

First, consider interactions between birth, on one hand, and dissolution or merger, on the other. For interorganizational mobility, the indirect main effects of organizational birth and merger are predicted to be positive, while the indirect main effect of dissolution is predicted to be negative; however, if a large number of births were accompanied by a large number of dissolutions or mergers, we would expect to see strongly increased interorganizational mobility rates, as the employees forced out of the large number of failing (dissolved or merged) firms sought jobs in the many newly founded firms. If models of interorganizational mobility included variables to indicate interactions between birth and dissolution and between birth and merger, we would expect the effect estimates on these variables to be positive. We would further expect that when birthrates are high, the total impact of organizational dissolution and merger, including main effects and interactions with birth, would be positive rather than negative. Great industry turmoil should spur interorganizational, intraindustry mobility.

Interactions between founding and failure will have parallel but weaker effects on intraorganizational mobility. We predict a positive indirect main effect for organizational birth and negative indirect main effects for organizational dissolution and merger. Both interactions—birth with dissolution and birth with merger—ought to have positive effects, for a large number of organizational foundings will attenuate the decline in intraorganizational mobility caused by both organizational failure processes and a large number of failures will further fuel the increase in intraorganizational mobility caused by organizational founding.

If movement within the industry is amplified by industry turmoil, exit from the industry will be attenuated by such turmoil. Recall that we predict positive indirect main effects of dissolution and merger on exit from the industry. Although birth has no main effect on exit from the industry, this process ought to ameliorate the impact of organizational dissolution and merger on exit from the industry. When an industry is in great turmoil, a large number of foundings essentially cancels out a large number of failures. Under these circumstances, individuals forced out of merged or dissolved firms can find positions in newly founded firms and are less likely to have to leave the industry. Therefore, in analyses of exit from the industry, interactions between birth and dissolution and between birth and merger will have negative effects.

It is also likely that the effects of the two failure processes, merger and outright dissolution, interact. Merger and dissolution should amplify each other's effects, so that when a large number of mergers is accompanied by a large number of dissolutions, the impact of both ecological processes will increase in magnitude. Consider first the combined impact of dissolution and merger on movement between firms within any industry. Individually, dissolution is predicted to indirectly decrease interorganizational mobility, as this process closes down vacancy chains, while merger is predicted to indirectly increase interorganizational mobility, as firms reduce staff and reorganize in the wake of merger. The interaction between dissolution and merger will likely have a negative effect on interorganizational mobility, exacerbating the negative effect of dissolution and attenuating the positive effect of merger. The interaction between failure processes on intraorganizational mobility should also be negative. Finally, an interaction between merger and dissolution can be expected to further increase exits from the industry, exacerbating the main effects of dissolution and merger.

Following this reasoning, we offer the following interaction hypotheses:

*HYPOTHESIS 11.—The interaction between organizational founding and organizational dissolution will increase the rate of intraorganizational mobility.*

*HYPOTHESIS 12.—The interaction between organizational founding and dissolution will increase the rate of interorganizational mobility.*

*HYPOTHESIS 13.—The interaction between organizational founding and dissolution will decrease the rate of exit from the industry.*

*HYPOTHESIS 14.—The interaction between organizational founding and merger will increase the rate of intraorganizational mobility.*

*HYPOTHESIS 15.—The interaction between organizational founding and merger will increase the rate of interorganizational mobility.*

*HYPOTHESIS 16.—The interaction between organizational founding and merger will decrease the rate of exit from the industry.*

*HYPOTHESIS 17.—The interaction between organizational dissolution and merger will decrease the rate of intraorganizational mobility.*

*HYPOTHESIS 18.—The interaction between organizational dissolution and merger will decrease the rate of interorganizational mobility.*

*HYPOTHESIS 19.—The interaction between organizational dissolution and merger will increase the rate of exit from the industry.*

## RESEARCH DESIGN

Research Setting: The California Savings and Loan Industry, 1969–88

Propositions linking industry dynamics to the movement of individual employees between jobs are best studied from a macro perspective, using longitudinal data on the individuals employed in one industry or organizational population or longitudinal data on the members of one occupational group employed in diverse organizations. We have followed the first strategy and collected data on the executive employees of all the savings and loan associations in California over a period of 20 years. Analysis of these data allows us to assess directly the link between organizational dynamics and individual mobility. Our methods contrast with previous research using more highly aggregated data on shifts in socioeconomic or industry structure (Blossfeld 1986; Hachen 1992; DiPrete 1993; Korn and Baum 1994). Our focus on managers and managerial jobs is consistent with our use of the vacancy-chain model, for this part of the labor force is most likely to follow chains of movement among fixed jobs, as assumed in this model (White 1970, pp. 17–18).

Because the savings and loan (thrift) industry is regulated, each firm must submit detailed reports to regulatory agencies. A wealth of reliable and serially consistent data on the behavior of these organizations and their managerial employees is available for analysis, something that is not true for many organizational populations. Moreover, the intense regulatory scrutiny applied to this industry makes it act as more of an ILM than do less regulated industries. Thrift managers develop skills related to thrift regulation and thus are likely to be firmly wedded to careers in the thrift industry. Specialization in the nuances of state regulation effectively precludes movement of managers to other industries. Of the moves in our sample, just over 40% were within the industry. The remainder of the moves were out of the industry, but these included geographic relocations, retirements, and departures for further education. This ILM effect is likely to be stronger at the managerial level than at lower levels, where skills are less industry specific. This sort of training specificity and commitment to a career in a single industry is not unique

to managerial jobs in the thrift industry. For instance, the training of petroleum engineers and Protestant ministers creates similar career dynamics. Among semiskilled workers, such as restaurant chefs, welders, and printing-press operators, labor-market patterns may be similar to those seen for thrift managers.

Even when jobs or careers do not appear to unfold within industry- or firm-specific labor markets, industry dynamics will affect individual careers. The magnitude of these effects will vary depending on the nature of the positions held by individuals and the structure of the industry. For example, the relevant organizational populations to study to explain the career dynamics of a teller might include all banks, savings and loans, and credit unions. For a nurse, those populations might include all hospitals, health maintenance organizations, and hospice organizations.

The savings and loan industry in California offers an excellent forum for investigating relationships between the dynamics of organizations and the movement of individual employees. Over the last quarter-century, the savings and loan industry has experienced extraordinary changes. The increasing volatility of interest rates and the opportunities resulting from deregulation have led to a large number of organizational foundings, takeovers, mergers, and outright dissolutions. The dynamic nature of this industry facilitates testing hypotheses about changes in labor-market structures driven by organizational turbulence. California is a large state and supports a dense population of thrifts: on average, over 180 firms operated each year throughout this period. The dynamics seen in the California savings and loan industry are typical of other industries as well. Comparable founding, merger, and dissolution activity has been observed in such diverse industries as banks, insurance companies, newspapers, semiconductor manufacturers, breweries, voluntary social service organizations, day-care centers, and restaurants (e.g., Hannan and Carroll 1992).

Our data show variance on both sides of the causal model: (1) much organizational birth, death, and merger activity and therefore much change in the population of jobs available; and (2) much movement of managers within and between firms in this industry. Descriptive statistics presented in table 1 show trends in management employment and mobility in this organizational population between 1969 and 1988. The number of managers in the sample was relatively constant until 1975, when it dropped abruptly due to changes in reporting requirements of the federal regulators. Because the detail required to be reported was lessened considerably between 1974 and 1975, the number of managers reported by many large thrifts dropped. After that time, there was a slow but steady

TABLE 1

TRENDS IN THE CALIFORNIA SAVINGS AND LOAN INDUSTRY, 1969-88

Year	Firm Births	Firm Deaths	Firm Mergers	Firms	Managers	Moves within Firms	Moves between Firms	Moves out of Industry	Total Moves
1969 .....	2	0	25	229	1,752	97	111	208	416
1970 .....	1	0	20	210	1,713	86	61	211	358
1971 .....	0	0	20	190	1,708	90	134	163	387
1972 .....	6	0	19	177	1,702	79	62	153	294
1973 .....	7	0	9	175	1,837	73	93	257	423
1974 .....	6	0	12	169	1,784	85	144	815*	1,044*
1975 .....	10	0	14	165	1,150*	125	27	94	246
1976 .....	5	0	6	164	1,104	92	41	100	233
1977 .....	4	0	3	165	1,115	87	43	76	206
1978 .....	8	0	3	170	1,166	91	47	113	251
1979 .....	11	0	1	180	1,220	103	65	173	341
1980 .....	24	1	8	195	1,277	85	100	262	447
1981 .....	13	0	22	186	1,213	76	101	327	504
1982 .....	17	4	33	166	1,116	109	64	176	349
1983 .....	18	0	4	180	1,253	133	66	288	487
1984 .....	20	1	1	198	1,330	115	74	310	499
1985 .....	27	1	8	216	1,441	123	62	329	514
1986 .....	13	3	10	216	1,466	116	71	348	535
1987 .....	8	8	9	207	1,412	92	26	442	560
Total .....	200	18	227	3,558	26,759	1,857	1,392	4,845	8,094

NOTE.—Firm births and deaths are listed in the calendar year in which they occur, firms and managers are counted at year's end. Moves are job changes by managers; move data are measured between the calendar year shown and the following calendar year.

\* The large number of apparent moves out of the industry in 1974 is a result of a change in federal reporting requirements that allowed less detailed reporting of thrift managers.

increase in the number of managers.<sup>3</sup> Between 1969 and 1988, 5,816 thrift managers made a total of 8,094 job shifts. This represents, on average, 1.4 moves per manager, indicating that the typical manager held 2.4 jobs over the typical five-year job history we observed. About 23% of these were moves within the same firm, 17% were moves between firms within the thrift industry, and the remainder were exits from the industry. Note that organizational failure came about solely through

<sup>3</sup> When we cleaned the data, we made every effort to minimize the impact of this change in recording. We filled gaps in the records of individuals who were continuously employed by one firm but for whom data were missing for a few years after 1974. However, the vast majority of managers who disappeared in 1974, primarily those at the level of vice president or below, never reappeared. We controlled for this change in recording with a variable indicating exit between 1974 and 1975 for low-level managers. We also reestimated all models using data for the period 1975-88 only. These results, which are available from the first author upon request, do not differ materially from those reported here. Generally, the only change is lower significance levels, which are expected for estimates on a smaller data set.

merger until 1980, when the first outright dissolution was seen. Over 90% of organizational failures occurred through merger.

### Data Sources

For the time period covered by these analyses, the Federal Home Loan Bank Board (FHLB) of San Francisco was the regulatory body that governed savings and loan associations in California, Nevada, and Arizona. The FHLB published reports on all member institutions. These annual *Directories of Members* contain summary data on the industry, plus a wealth of data on each firm: date of incorporation, a simple balance sheet, and names and titles of top managers (from the assistant vice president up). We acquired *Directories* from December 1969 to December 1988. These sources enabled us to draw up life histories of all California thrifts and to piece together the work histories of all top managerial employees from 1969 to 1988.

### Model Specification and Measurement

The outcomes of interest in this study are career trajectories, in other words, changes in individuals' jobs. We study the rates at which individuals move from one employing organization to another, the rates at which employees move between jobs within organizations, and the rates at which employees leave the industry.<sup>4</sup> We study discrete, time-varying outcomes, and our explanatory variables are a mix of continuous and discrete variables. (For a summary listing of all variables, see app. A, table A1.) Accordingly, we use event-history analysis. The dependent variables in our analyses are instantaneous rates of transition from one state of employment to another, defined as

$$r_m(t) = \lim_{dt \downarrow 0} \text{prob} \frac{(t \leq T < t + dt, M = m | T \geq t)}{dt},$$

where  $r_m(t)$  is the hazard rate of movement from one position to another,  $\text{prob}(\cdot)$  is the probability of movement between times  $t$  and  $t + dt$ , given that the individual is in the sample (i.e., employed in the thrift industry) at time  $t$ . This competing risks model distinguishes between the three types of moves that any savings and loan manager is at risk of making: moving between positions within a firm, moving across firms within the industry, and moving out of the industry. Thus  $m$  can take on three

<sup>4</sup> Unfortunately, our data do not permit us to distinguish between voluntary and involuntary turnover, except that we can presume involuntary movement accompanies organizational dissolution or merger.

different values: "1" for a move within a firm, "2" for a move between firms in the thrift industry, and "3" for an exit from the thrift industry.

Any individual in our sample can move multiple times. Accordingly, we study career mobility using a repeated-events framework. The dependent variable is a transition rate that incorporates information from all job shifts, not just the first. We estimate a composite transition rate for all moves, regardless of whether or not an individual has moved before:

$$r_m(t) = \exp[\beta_m X(t)],$$

where  $\beta_m$  consists of three vectors of coefficients, one coefficient per variable per value of  $m$ , and  $X(t)$  is a vector of time-varying explanatory variables: rates of organizational founding, dissolution, and merger; characteristics of employing organizations; type of job held and length of service in the job and firm; and characteristics of the industry and general economic system. Our analysis produces three sets of parameter estimates, one corresponding to each of the three types of moves.

*Measurement of dependent variables.*—The outcome under study is movement from job to job within and between savings and loan associations. Accordingly, for each thrift manager each year, we note the position the manager held (determined by job title) and for which firm the manager worked.

We originally coded job title exactly as it was reported in the annual reports. We then recoded our data to eliminate inconsistencies in reporting over time. For example, the records of an individual who was reported as a vice president (VP) and secretary in one year, as a VP only in the next year (no one else was reported as secretary), and as a VP and secretary in the third year were recoded as VP and secretary all three years. The 6,039 managers who worked between 1969 and 1988 had 139 distinct job titles. To reduce this to a meaningful and manageable number, we aggregated job titles in two ways. For staff functions, we created five categories: secretary; treasurer; comptroller; any combination of secretary, treasurer, and comptroller; and a miscellaneous category that included the few managers who held such titles as chief financial officer, chief marketing officer, chief loan officer, chief operating officer, and general counsel. For line jobs, we grouped similar titles together by eliminating staff functions from the titles of various levels of vice presidents. For instance, we grouped together executive VPs (EVPs) and EVPs who held any combination of staff positions into the category EVP. In this fashion, we distilled the original 139 job categories into 16. In descending order, these are chairman, president, chief executive officer, vice chairman, senior executive VP, executive VP, first VP, senior VP, second VP, VP, the five staff positions, and assistant VP.

After aggregating job titles into 16 categories, we examined which of

these job titles was held by each individual from one year to the next. We recorded job shifts whenever an individual's job title changed, whenever an individual moved from one firm to another, and whenever an individual left the industry.

*Measurement of independent variables.*—We measure organizational founding and failure with counts of organizational birth, dissolution, and merger for each calendar year. We measure organizational birth as occurring in the calendar year in which the organization first provides financial and managerial data. This was generally the same year as incorporation or the following year. Dissolution and merger are measured as occurring in the year following the last year in which the organization recorded financial and managerial data. This was generally the same year as thrift regulators gave for dissolution or merger. Coding birth, dissolution, and merger this way draws a tight temporal link between organizations' vital events and personnel flows.

*Measurement of control variables.*—We control for two important characteristics of savings and loan managers: job held and tenure. Job held is a rough control for level in the corporate hierarchy and for line versus staff functional distinctions (e.g., vice president vs. treasurer). Job held is likely to influence intra- and interorganizational mobility, as those nearest the top have reached a ceiling for intraorganizational mobility, while those nearer the bottom can move both internally and externally.

Our models include two tenure variables: tenure in the firm and tenure in the job. We coded tenure in the firm as dating from the first year a manager was recorded as having worked in a firm. Tenure in the job dated from the first year a manager was recorded as having a job title.<sup>5</sup> It is important to control for tenure, because recent research shows that labor-market turbulence affects experienced workers differently from inexperienced workers (DiPrete 1993). Moreover, tenure in the firm has been shown by past research to diminish interorganizational mobility, and tenure in the job has been shown to diminish intraorganizational mobility (e.g., Tuma 1976). Existence of negative duration dependence in models of job mobility is consistent with theories of careers that treat

<sup>5</sup> We had continuous records for state-chartered thrifts back to the turn of the century and could assign accurate start dates to all managers in these firms; however, for federally chartered thrifts, data were missing before 1946 and between 1948 and 1957, inclusive. For managers in federally chartered thrifts who were working in 1958, we checked firm records for 1946 and 1947. If the managers did not appear in 1947, we randomly assigned them start dates (for company and job) between 1948 and 1958, inclusive. If the managers did appear in 1947 and 1946, we randomly assigned them start dates between 1937 and 1946, inclusive. All randomly assigned start dates were bounded by firm birth. Of the 1,444 managers working in 1969, we assigned start dates for jobs to 82 managers and start dates for firms to 185 managers.



mobility as a matching process under conditions of incomplete information (e.g., Jovanovic 1979*a*, 1979*b*; Sørensen 1977). It is also consistent with the presence of unobserved heterogeneity in the workforce (Tuma and Hannan 1984, pp. 174–79). Since we have no other data on individuals (apart from job title), controlling for unobserved heterogeneity by controlling for both types of tenure is imperative.

Following previous research (Tuma 1976; Sørensen 1977), we model duration dependence in rates of job mobility using a log-linear function of tenure. According to this specification, rates of job mobility decline exponentially with tenure in the firm and tenure in the job. In order to explore the possibility that time dependence in career mobility takes other forms, we also estimated models with log (duration) and with duration plus duration squared. These changes did not substantially alter the effects estimated for the other variables, so we present only the models containing the simple tenure variables.

We control for two organizational characteristics: age and size (in terms of assets and number of managerial employees).<sup>6</sup> Older organizations are more likely to have established ILMs, which buffer employees from environmental turbulence. Organizational size has also been linked to the development of ILMs (Granovetter 1984; Pfeffer and Cohen 1984) and thus is also likely to attenuate industry effects. Additionally, in order to assess the indirect effects of organizational mortality net of the direct effects, our models include a control for the death of the employing organization.

We also control for forces in the environment that are likely to affect the opportunity structures facing savings and loan managers. We control first of all for the number of thrifts operating each year (industry density), in order to control for the number of firm boundaries that exist for individuals to cross. Next, we control for the number of individuals in California working in the financial-services sector, which provides a measure of the total mass of financial-services jobs. We also control for unemployment in the state, which is a gross measure of the mobility opportunities available outside the thrift industry and the competition for those jobs. Finally, we control for state gross domestic product, which assesses the general health of the state economy.

<sup>6</sup> In preliminary analyses, we also controlled for organizational growth or shrinkage by measuring the one-year change in the number of managerial employees. Organizational growth and contraction affect mobility, in part because these processes create new jobs and destroy existing ones, thereby altering opportunity structures (Baron 1984). Controlling for organizational growth or contraction also makes it possible to control for the phenomenon of employees leaving a troubled company. But the addition of this variable to the baseline model did not significantly improve fit to the data, so this variable was dropped from the analyses shown here.

The data are broken down into one-year spells. All variables are updated each year. Control variables that represent levels, such as industry density and tenure in the firm, are measured at the beginning of each calendar year; independent variables that represent flows, such as number of firm births, are measured over the prior calendar year; and dependent variables, which indicate movement within firms, between firms, and out of the industry, are measured during the current calendar year. Thus, independent and control variables are measured one year before dependent variables. The control for the direct effect of the death of the employing organization, however, is measured concurrently with movement (i.e., during the same calendar year). There are 26,759 one-year job spells in the data set, covering the work histories of all 5,816 individuals employed in the top ranks of the 427 savings and loan associations that operated between 1969 and 1987 (the 223 individuals who began employment in the top ranks of California thrifts in 1988 are dropped since we have no data on their subsequent job moves). Table 2 presents means, standard deviations, and correlations for the variables used in the hazard rate analysis.

Of particular interest are the bivariate correlations between the independent and dependent variables. All but one are in the predicted directions and 12 of these are statistically significant. For example, organizational birth is positively correlated with intraorganizational mobility, as predicted by hypothesis 1, and positively correlated with interorganizational mobility (although not statistically significant), as predicted by hypothesis 2. The number of births is also positively correlated with exits from the industry, as expected when general economic conditions are not controlled. This relationship appears to be spurious: the number of births has strong, positive correlations with economic health variables (California financial services sector employment and gross state product, or GSP); these variables are, in turn, positively correlated with exits from the industry. In sum, these statistics provide preliminary support for our model.

To estimate the indirect effects of industry dynamics on job mobility, we use Tuma's (1980) maximum-likelihood (ML) program RATE, which controls for right censoring. Right censoring occurs when the value of the outcome under study is unknown (i.e., when some individuals in the sample have not yet changed jobs by the end of the observation period). Estimation of ML with RATE allows right-censored observations to be used in estimating parameters, thereby avoiding biases that result from eliminating censored observations or treating censored observations as though events occur when the observation period ends (Sørensen 1977; Tuma and Hannan 1984). With ML estimation, censored observations contribute exactly what is known about them, namely that the individual

TABLE 2

DESCRIPTIVE STATISTICS: MEANS, STANDARD DEVIATIONS, AND CORRELATIONS

	Move within	Move Out	Exit	Births	Deaths	Mergers	Company Death	Company Merged	Go to New Company	Te Co
Mean .....	.069	.052	.181	9.98	1.40	11.92	.006	.060	.007	5
SD .....	.254	.222	.385	7.57	2.68	7.82	.077	.237	.082	7
Move within .....	...	-.064*	-.128*	.045*	.010	-.047*	-.021*	-.069*	-.022*	-
Move out .....			-.110*	.007	-.022*	.046*	.034*	.368*	.351*	-
Exit .....				.081*	.111*	.054*	.134*	.290*	-.039*	-
Births .....					.227*	-.160*	.027*	-.015*	-.039*	-
Deaths .....						.089*	.156*	.006	.011	-
Mergers .....							.013*	.153*	-.016*	-
Company death .....								-.020*	.053*	-
Company merged .....									.106*	-
Go to new company .....										-
Tenure in company .....										-
Tenure in job .....										-
Left-truncated history .....										-
Title .....										-
1974 and low .....										-
ln(firm age) .....										-
ln(assets) .....										-
ln(managers) .....										-
Firms .....										-
Financial employment .....										-
Unemployment rate .....										-
GSP .....										-

NOTE.—For definitions of variables, see app. A; these statistics are calculated using pooled cross-sectional and time-series covering 5,816 managers, 427 firms, and 26,759 one-year periods between 1969 and 1988.

\*  $P < .05$ , two-tailed  $t$ -test.

did not move for the duration of the observation period. Noncensored cases contribute their entire histories, including the career move.

One problem with this research design must be addressed, namely left truncation. Left truncation occurs whenever data are unavailable on the initial conditions and past history of the social actors under study (Cox and Oakes 1984, pp. 177–78). This study begins in 1969. Individuals who held managerial positions in the California thrift industry before this date and who left before 1969 are not part of the population analyzed; only individuals who were still there in 1969 are included. Having left-truncated data creates difficulties in interpreting parameter estimates. The sample of managers we study was chosen contingent upon their working in the industry at the start of the observation period (or at some

Tenure in Job	Left- truncated History	Title	1974 and Low	ln (Firm Age)	ln (Assets)	ln (Managers)	Firms	Financial Employment	Unemployment Rate	GSP
3.48	.378	7.96	.047	3.05	5.83	2.17	188.8	565.4	7.63	4,715.5
4.65	.485	3.88	.211	1.24	1.87	.642	20.11	145.5	1.29	781.3
-.021*	-.038*	.081*	-.016*	-.022*	-.015*	-.060*	-.013*	.046*	-.002	.039*
-.065*	-.036*	.005	.021*	-.001	.034*	.028*	.0002	-.015*	.037*	-.026*
-.054*	-.117*	.070*	.219*	-.087*	-.025*	.045*	.024*	.101*	.052*	.108*
-.133*	-.440*	-.098*	-.116*	-.263*	-.105*	-.250*	.100*	.745*	-.108*	.634*
-.107*	-.314*	-.083*	-.115*	-.239*	-.051*	-.182*	.448*	.727*	-.492*	.801*
.052*	.221*	.034*	.059*	.073*	.004	.101*	.452*	-.256*	.287*	-.318*
-.048*	-.060*	-.015*	-.017*	-.123*	-.038*	-.041*	.067*	.109*	-.077*	.120*
-.002	.009	.003	.081*	.017*	.004	.018*	.026*	-.037*	.079*	-.048*
-.028*	-.040*	.002	-.012	-.031*	.003	-.002	-.011	.043*	.004	.033*
.706*	.645*	-.289*	-.041*	.335*	.120*	-.032*	-.056*	-.120*	.046*	-.129*
	.502*	-.098*	.017*	.233*	.047*	-.036*	-.026*	-.160*	.048*	-.155*
		-.105*	-.021*	.319*	.113*	.109*	.109*	-.532*	.126*	-.502*
			.137*	.035*	.001	.123*	-.026*	-.129*	.048*	-.118*
				.096*	.099*	.240*	-.217*	-.181*	.389*	-.134*
					.653*	.375*	-.137*	-.329*	.133*	-.317*
						.672*	-.040*	-.112*	.015*	-.080*
							-.083*	-.328*	.125*	-.277*
								.191*	-.407*	.232*
									-.434*	.960*
										-.535*
										...

later time during our observation period). This selection criterion creates bias if it is correlated with the outcome under study (Heckman 1979; Berk 1983; Tuma and Hannan 1984). If the factors that cause an individual to continue to work for a thrift until 1969 are related to the factors that cause mobility after 1969, then there is sample-selection bias. Previous research has shown that tenure in an organization and tenure in a job are both linked to mobility (e.g., Tuma 1976). In investigating job mobility in this sample, we are therefore likely to be confronted with sample-selection bias. Note that sample-selection bias is attenuated to the extent that a large proportion (75%) of the individuals studied entered our sample after the beginning of our observation period.

Our models control for the fact that many of the individuals (1,444 out of 5,816) worked in California thrifts before the beginning of the observation period. The models estimated include a dummy variable for left truncation to provide a main-effects test of whether individuals work-

ing in this industry before 1969 differ from individuals who started work from 1969 onward. This control is similar to that used by researchers in organizational ecology who deal with left-truncated organizational life histories (e.g., Baum and Oliver 1991; Haveman 1992). We estimate multiple-spells models: our data are in the form of one spell per manager per year to capture changes in independent and control variables over time. This modeling strategy enables us to control for tenure in the company and tenure in the job for all managers, including those with left-truncated work histories. Thus, we condition our estimates of job mobility rates on tenure. This modeling strategy will lead to unbiased estimates, because it controls for the only aspect of past history that is of interest in semi-Markov models, namely duration in state (Yamaguchi 1991, pp. 7–8; Guo 1993).<sup>7</sup> This modeling strategy has the further advantage of using all available information, thus maximizing statistical power.

A second way to resolve the problem caused by the presence of left-truncated observations is to eliminate data on the individuals with left-truncated work histories, which has the disadvantage of throwing information away but is a good check on the unbiasedness of using the complete data set. Accordingly, we reestimated all models on a subset of data including only those individuals with full work histories. These results do not differ materially from those estimated on the full data set and therefore are not shown here; they are available from the first author upon request.

## RESULTS

### Direct Effects of Industry Dynamics

The first question to be addressed is: How much mobility occurred as a direct consequence of organizational birth, death, and merger? Table 3 shows the proportion of managers that were directly affected by these organizational dynamics and the proportion of various types of job shifts (entries into the industry, moves across firms, exits from the industry) that occurred as a direct consequence of the birth, dissolution, or merger of a savings and loan association.

The top half of this table examines the impact of organizational birth on job shifts. Over one-sixth of savings and loan managers worked in newly founded organizations. Indeed, over the course of their careers, 50 managers worked in two or three organizations at their time of founding.

<sup>7</sup> Semi-Markov models assume that hazard rates are independent of previous history, but they allow these rates to depend on duration in a state. See Tuma and Hannan (1984, pp. 92–95).

TABLE 3  
THE DIRECT EFFECT OF COMPANY BIRTH AND DEATH ON CAREER MOBILITY

	MANAGERS		MOVES BETWEEN ORGANIZATIONS		ENTRIES TO INDUSTRY		EXITS FROM INDUSTRY	
	N	%	N	%	N	%	N	%
Company births:								
All ...	6,039	100	1,392	100	4,355	100		
In or into new organizations	1,055	17.5	126	9.1	1,110	25.5		
Company deaths:								
All ..	5,816	100	1,392	100			4,845	100
In or from dying organizations	154	2.6	24	1.7			135	2.8
In or from merging organizations	1,348	23.8	602	43.2			1,000	20.6

NOTE.—6,039 managers worked in the industry between 1969 and 1988; 223 of these individuals began work in 1988. We have data on entry for all 6,039 managers, but we have data on moves for only the 5,816 managers who began work in 1987 or earlier.

Almost 10% of moves between firms occurred when managers left their old employing organizations to take jobs in newly founded firms. In addition, over one-quarter of the entries into managerial positions in this industry were entries into newly founded savings and loan associations.

The bottom half of the table investigates the direct impact of organizational failure—dissolution and merger—on career mobility. Over one-quarter of these managers were employed in savings and loan associations when these organizations failed. In addition, over the course of their careers, 167 managers had the misfortune to work in two or more thrifts at the time they failed. Almost half of all moves between firms in the industry occurred when managers left a failing firm. About one-quarter of the exits from the industry came from failing firms.

These figures demonstrate that a large proportion of managers in this industry were directly affected by organizations' vital processes. Moreover, they show that a large fraction of job shifts were direct and immediate responses to the merger or dissolution of old organizations or to the birth of new organizations. These results indicate that models of career mobility must take into consideration the dynamics of employing organizations. The direct effects of organizational birth, dissolution, and merger are considerable, but they are ignored in models that assume employing organizations to be permanent fixtures in labor markets.

#### Indirect Effects of Industry Dynamics

*Any move.*—Table 4 presents hazard rate models of the impact of the dynamics of the thrift population on all job shifts. The dependent variable here is any move from a managerial job in the California savings and loan industry, including moves within firms, moves between firms, and exits from the industry. Model 1 presents a baseline model containing only individual, organizational, and industry control variables: tenure in the company, tenure in the job, an indicator for left-censored work history, job title (a series of 15 indicator variables, with chairman being the omitted reference category), the natural logarithms of company age (years) and size (total assets and total number of managers), industry density, financial-sector employment, unemployment rate, and gross state product. The baseline model also includes three indicator variables to assess the direct effect of industry dynamics. The first variable indicates whether a manager moves into a newly founded organization (yes = 1). The second and third variables indicate whether the focal organization is merged or dissolved (yes = 1), thereby forcing mobility. Note that these three variables have the expected positive effects on overall mobility. Finally, the baseline model includes a variable to indicate whether the year is 1974–75 and the individual in question is at or below

the vice-president level (yes = 1), which controls for apparent exits from the industry by lower-level thrift managers that were actually caused by changes in recording between 1974 and 1975.

Models 2–8 add variables indicating industry dynamics. Organizational founding ought to have a positive effect on overall mobility, since it is predicted to have positive effects on two out of three types of mobility and a null effect on the third. Model 2 shows that the firm birthrate has a positive and marginally significant ( $P < .06$ ) relationship with the overall rate of mobility, which supports this notion. The overall impact of organizational dissolution ought to be negative, since we make three negative predictions. Model 3 shows that the effect of dissolution is negative and statistically significant. The impact of merger should have a positive effect on overall mobility, since it is predicted to have positive effects on two out of three types of mobility. Instead, model 4 shows a negative and marginally significant effect for merger ( $P < .08$ ). Model 5 shows the impact of all three simultaneously. The effect estimates for births and mergers are rendered nonsignificant, but the effect estimate for deaths remains strong.

Models 6–9 investigate interactions between ecological processes. Model 6 shows a negative and statistically significant effect for the interaction between birth and dissolution and a nonsignificant main effect for dissolution, indicating that the negative effect of dissolution depends on the number of births. Model 7 shows a similar negative effect for the interaction between birth and merger. Note that the main effect of merger, which was negative in model 4, is rendered positive when the interaction is controlled. This suggests that the negative main effect was spurious and picked up some of the dampening effect of the interaction. Model 8 shows no significant interaction between merger and dissolution. Finally, model 9 is a full model containing all main effects and interactions. The negative interactions between birth and dissolution and between birth and merger remain, as do the positive main effects of birth, dissolution, and merger. These results suggest that birth and failure (merger and dissolution) tend to dampen each other's impact on overall rates of job mobility.

The outcome examined in this analysis is any move, which is a heterogeneous category encompassing moves within firms, moves between firms, and exits from the industry. In order to examine the differences between the types of moves, we perform a competing risks analysis on the three types of moves. Tables 5–7 present these competing risks models. We discuss each outcome in turn, starting with job shifts within firms. Then we compare the results across the three types of moves.

*Moves within organizations.*—The first model in table 5 contains control variables for individual, organizational, and macroeconomic factors.



TABLE 4  
THE EFFECT OF INDUSTRY DYNAMICS ON THE RATE OF JOB MOVES

	MODEL								
	1	2	3	4	5	6	7	8	9
Constant .....	-3.42* (.282)	-3.39* (.283)	-3.86* (.331)	-3.54* (.293)	-4.06* (.442)	-4.23* (.423)	-2.83* (.354)	-3.78* (.344)	-3.17* (.520)
Tenure in company .....	-.018* (.004)	-.018* (.004)	-.018* (.004)	-.018* (.004)	-.018* (.004)	-.018* (.004)	-.017* (.004)	-.018* (.004)	-.017* (.004)
Tenure in job .....	.007 (.004)	.007 (.004)	.007 (.004)	.007 (.004)	.007 (.004)	.007 (.004)	.007 (.004)	.007 (.004)	.006 (.004)
Left-truncated history .....	-.027 (.044)	-.018 (.045)	-.022 (.044)	-.029 (.045)	-.023 (.045)	-.028 (.045)	-.032 (.045)	-.019 (.045)	-.040 (.045)
ln(firm age) .....	-.061* (.013)	-.060* (.013)	-.058* (.013)	-.060* (.013)	-.058* (.013)	-.059* (.013)	-.057* (.013)	-.059* (.013)	-.057* (.013)
ln(assets) .....	.012 (.011)	.012 (.011)	.010 (.011)	.011 (.011)	.010 (.011)	.011 (.011)	.011 (.011)	.011 (.011)	.011 (.011)
ln(managers) .....	.007 (.026)	.006 (.026)	.010 (.026)	.010 (.027)	.011 (.027)	.010 (.027)	.004 (.027)	.007 (.027)	-.001 (.027)
1974 and low .....	.746* (.055)	.741* (.055)	.737* (.055)	.749* (.055)	.735* (.055)	.729* (.055)	.774* (.056)	.712* (.059)	.752* (.060)
Firms/100 .....	.179* (.074)	.162* (.074)	.247* (.078)	.265* (.094)	.260* (.101)	.351* (.097)	-.087 (.136)	.160 (.117)	-.018 (.167)
Financial employment/100 ....	.143* (.034)	.110* (.040)	.129* (.035)	.155* (.035)	.140* (.044)	.107* (.045)	.121* (.042)	.135* (.039)	.105* (.047)

Unemployment rate .....	.069*	.067*	.074*	.077*	.076*	.083*	.034 <sup>+</sup>	.078*	.047*
	(.014)	(.014)	(.014)	(.015)	(.015)	(.015)	(.019)	(.015)	(.020)
GSP/1,000 .....	.009	.045	.089	-.021	.113	.132 <sup>+</sup>	.015	.084	.046
	(.065)	(.069)	(.072)	(.068)	(.092)	(.074)	(.074)	(.089)	(.094)
Go to new company .....	.526*	.523*	.514*	.519*	.513*	.530*	.522*	.515*	.532*
	(.077)	(.077)	(.077)	(.077)	(.078)	(.078)	(.077)	(.078)	(.078)
Company death .....	.991*	1.01*	1.03*	1.00*	1.03*	1.03*	1.02*	1.02*	1.03*
	(.084)	(.084)	(.085)	(.084)	(.085)	(.085)	(.085)	(.085)	(.085)
Company merged .....	1.28*	1.28*	1.29*	1.29*	1.29*	1.28*	1.29*	1.29*	1.29*
	(.029)	(.029)	(.029)	(.030)	(.030)	(.029)	(.030)	(.030)	(.030)
Births/100 .....		.392 <sup>+</sup>			-.271	.357	2.08*		2.69*
		(.239)			(.416)	(.427)	(.584)		(.829)
Deaths/100 .....			-1.84*		-2.73*	.118		-.060	4.86*
			(.730)		(1.54)	(1.65)		(1.85)	(2.54)
Mergers/100 .....				-.295 <sup>+</sup>	.108		1.69*	.323	1.96*
				(.203)	(.281)		(.605)	(.355)	(.709)
Births × deaths/100 .....						-.325*			-.377*
						(.108)			(.121)
Births × mergers/100 .....							-.117*		-.127*
							(.035)		(.036)
Deaths × mergers/100 .....								-.130	-.097
								(.112)	(.120)
$\chi^2$ .....	3,200.0	3,202.7	3,206.4	3,202.1	3,206.8	3,215.7	3,214.9	3,207.7	3,228.8
<i>df</i> .....	29	30	30	30	32	32	32	32	35

NOTE.—SEs in parentheses; significance was calculated using two-tailed *t*-tests for control variables, one-tailed *t*-tests for independent variables. These results cover the work histories of 5,816 managers in 427 firms, who made 8,094 moves (within firms, between firms, or out of the industry) over 26,759 one-year spells. All models include 15 dummy variables to control for job title, which are statistically significant but are not shown, for the sake of clarity.

<sup>+</sup>  $P < .10$ .

\*  $P < .05$ .

TABLE 5  
THE EFFECT OF INDUSTRY DYNAMICS ON THE RATE OF JOB MOVES WITHIN FIRMS

	MODEL								
	1	2	3	4	5	6	7	8	9
Constant .....	-.3.92* (.549)	-.3.76* (.556)	-.5.03* (.651)	-.4.85* (.577)	-.4.32* (.884)	-.5.19* (.853)	-.4.69* (.706)	-.4.93* (.697)	-.4.33* (1.02)
Tenure in company .....	-.0005 (.007)	-.001 (.007)	-.001 (.007)	.001 (.007)	.001 (.007)	-.001 (.007)	.001 (.007)	.001 (.007)	.001 (.007)
Tenure in job .....	.003 (.008)	.003 (.008)	.003 (.008)	.003 (.008)	.003 (.008)	.003 (.008)	.003 (.008)	.003 (.008)	.003 (.008)
Left-truncated history .....	.011 (.092)	.025 (.092)	.018 (.092)	-.019 (.092)	-.012 (.093)	-.015 (.092)	-.013 (.093)	-.018 (.093)	-.016 (.093)
ln(firm age) .....	-.088* (.027)	-.086* (.027)	.082* (.027)	-.077* (.027)	-.077* (.027)	-.081* (.027)	-.076* (.027)	-.077* (.027)	-.077* (.027)
ln(assets) .....	.149* (.022)	.149* (.022)	.145* (.022)	.140* (.022)	.141* (.022)	.144* (.022)	.140* (.022)	.140* (.022)	.140* (.022)
ln(managers) .....	-.681* (.066)	-.685* (.066)	-.673* (.066)	-.652* (.067)	-.656* (.067)	-.668* (.067)	-.655* (.067)	-.651* (.067)	-.655* (.068)
Firms/100 .....	-.377* (.144)	-.424* (.146)	-.190 (.154)	.288 (.193)	.220 (.205)	-.175 (.194)	.222 (.283)	.301 (.236)	.267 (.340)
Financial employment/100 .....	.083 (.062)	.004 (.074)	.042 (.064)	.141* (.064)	.099 (.079)	.084 (.082)	.107 (.078)	.135* (.072)	.766 (.894)

Unemployment rate .....	.042 + (.024)	.051 * (.024)	.090 * (.026)	.080 * (.028)	.055 * (.027)	.081 * (.035)	.089 * (.026)	.076 * (.035)
GSP/1,000 .....	-.016 (.119)	-.191 (.137)	-.188 (.125)	-.225 (.175)	.175 (.141)	-.151 (.134)	-.165 (.169)	-.213 (.177)
Births/100 .....	.991 * (.502)			.809 (.822)	-.679 (.838)	.520 (1.14)		1.26 (1.47)
Deaths/100 .....		-4.88 * (1.58)		1.96 (3.06)	-7.69 * (3.35)		-.706 (3.80)	2.21 (4.88)
Mergers/100 .....			-2.17 * (.439)	-2.32 * (.574)		-1.97 + (1.21)	-2.18 * (.720)	-2.41 * (1.40)
Births × deaths/100 .....					.184 (.232)			-.106 (.254)
Births × mergers/100 .....						-.008 (.068)		-.012 (.069)
Deaths × mergers/100 .....							.027 (.234)	.094 (.247)
$\chi^2$ .....	703.9	707.8	713.6	729.4	730.3	714.5	730.0	730.7
df .....	25	26	26	26	28	28	28	31

NOTE.—SEs in parentheses; significance was calculated using two-tailed  $t$ -tests for control variables, one-tailed  $t$ -tests for independent variables. These results cover the work histories of 5,816 managers in 427 firms, who made 1,857 moves within a firm over 26,759 one-year spells. All models include 15 dummy variables to control for job title, which are statistically significant but are not shown, for the sake of clarity.

+  $P < .10$ .

\*  $P < .05$ .

TABLE 6  
THE EFFECT OF INDUSTRY DYNAMICS ON THE RATE OF JOB MOVES BETWEEN FIRMS

	MODEL								
	1	2	3	4	5	6	7	8	9
Constant .....	-1.41* (.622)	-1.26* (.630)	-2.43* (.730)	-1.67* (.655)	-2.36* (.937)	-2.06* (.923)	-.526 (.760)	-1.38* (.811)	-.050 (1.14)
Tenure in company .....	-.030* (.009)	-.031* (.009)	-.030* (.009)	-.029* (.009)	-.030* (.009)	-.030* (.009)	-.029* (.009)	-.032* (.009)	-.032* (.009)
Tenure in job .....	-.057* (.012)	-.056* (.012)	-.036 <sup>b</sup> (.012)	-.056 <sup>a</sup> (.012)	-.056* (.012)	-.056* (.012)	-.056* (.012)	-.057* (.012)	-.056* (.012)
Left-truncated history .....	.052 (.105)	.071 (.105)	.052 (.105)	.032 (.106)	.055 (.106)	.058 (.105)	.042 (.106)	.078 (.106)	.083 (.106)
ln(firm age) .....	-.087* (.032)	-.086* (.033)	-.086* (.033)	-.085* (.033)	-.086* (.033)	-.083* (.033)	-.081* (.033)	-.088* (.033)	-.082* (.033)
ln(assets) .....	.113* (.026)	.115* (.026)	.110* (.026)	.109* (.026)	.111* (.026)	.109* (.026)	.112* (.026)	.117* (.026)	.118* (.026)
ln(managers) .....	-.124* (.059)	-.133* (.059)	-.118* (.059)	-.113* (.060)	-.119* (.060)	-.114* (.060)	-.130* (.060)	-.158* (.061)	-.168* (.061)
Firms/100 .....	-.125 (.173)	-.162 (.174)	.053 (.185)	.081 (.221)	.035 (.229)	-.047 (.218)	-.501 (.306)	-.402 (.262)	-1.13* (.352)
Financial employment/100 ....	.284* (.073)	.195* (.086)	.276* (.074)	.325* (.078)	.267* (.097)	.310* (.100)	.220* (.094)	.381* (.088)	.486* (.115)
Unemployment rate .....	-.029 (.027)	-.035 (.027)	-.014 (.028)	-.009 (.030)	-.016 (.031)	-.023 (.030)	-.073* (.038)	.003 (.031)	-.049 (.038)

GSP/1,000 .....	-.818*	-.744*	-.675*	-.912*	-.671*	-.737*	-.817*	-.905*	-1.02*
	(.141)	(.146)	(.152)	(.154)	(.203)	(.157)	(.163)	(.207)	(.217)
Go to new company .....	1.96*	1.96*	1.93*	1.94*	1.93*	1.91*	1.95*	1.95*	1.93*
	(.088)	(.089)	(.089)	(.089)	(.090)	(.091)	(.089)	(.090)	(.091)
Company death .....	1.36*	1.42*	1.48*	1.39*	1.48*	1.48*	1.48*	1.38*	1.39*
	(.220)	(.222)	(.225)	(.221)	(.225)	(.225)	(.223)	(.227)	(.228)
Company merged .....	2.26*	2.26*	2.27*	2.28*	2.27*	2.28*	2.27*	2.26*	2.26*
	(.058)	(.058)	(.058)	(.060)	(.060)	(.059)	(.060)	(.060)	(.060)
Births/100 .....		1.24*			.112	-.465	4.18*		1.15
		(.624)			(.998)	(.983)	(1.43)		(1.97)
Deaths/100 .....			-5.06*		-4.87*	-10.3*		8.84*	2.67
			(1.95)		(3.76)	(4.51)		(4.88)	(6.50)
Mergers/100 .....				-.750 <sup>+</sup>	.027		2.51*	1.55*	4.92*
				(.506)	(.698)		(1.38)	(.762)	(1.49)
Births × deaths/100 .....						.493 <sup>+</sup>			.814*
						(.313)			(.353)
Births × mergers/100 .....							-.194*	-.157*	-.157*
							(.080)	(.082)	(.082)
Deaths × mergers/100 .....								-.847*	-1.12*
								(.258)	(.275)
$\chi^2$ .....	2,370.1	2,374.0	2,376.9	2,372.3	2,376.9	2,379.4	2,381.1	2,387.6	2,399.7
df .....	28	29	29	29	31	31	31	31	34

NOTE.—SEs in parentheses; significance was calculated using two-tailed *t*-tests for control variables, one-tailed *t*-tests for independent variables. These results cover the work histories of 5,816 managers in 427 firms, who made 1,392 moves between firms over 26,759 one-year spells. All models include 15 dummy variables to control for job title, which are statistically significant but are not shown, for the sake of clarity.

<sup>+</sup>  $P < .10$ .

\*  $P < .05$ .

TABLE 7  
THE EFFECT OF INDUSTRY DYNAMICS ON THE RATE OF EXIT FROM INDUSTRY

	MODEL								
	1	2	3	4	5	6	7	8	9
Constant .....	-5.59* (.385)	-5.58* (.385)	-5.66* (.445)	-5.39* (.399)	-6.08* (.595)	-6.07* (.567)	-4.31* (.484)	-5.80* (.457)	-4.56* (.719)
Tenure in company .....	-.022* (.005)	-.022* (.005)	-.022* (.005)	-.022* (.005)	-.022* (.005)	-.022* (.005)	-.022* (.005)	-.023* (.005)	-.021* (.005)
Tenure in job .....	.020* (.006)	.020* (.006)	.020* (.006)	.020* (.006)	.020* (.006)	.020* (.006)	.020* (.006)	.020* (.006)	.019* (.006)
Left-truncated history .....	-.045 (.059)	-.042 (.059)	-.044 (.059)	-.038 (.059)	-.031 (.059)	-.048 (.059)	-.043 (.059)	-.027 (.059)	-.062 (.059)
ln(firm age) .....	-.038* (.017)	-.038* (.017)	-.038* (.018)	-.042* (.018)	-.039* (.018)	-.040* (.018)	-.037* (.018)	-.040* (.018)	-.038* (.018)
ln(assets) .....	-.068* (.014)	-.068* (.014)	-.068* (.015)	-.065* (.015)	-.066* (.015)	-.065* (.015)	-.066* (.015)	-.066* (.015)	-.066* (.015)
ln(managers) .....	.229* (.033)	.228* (.033)	.229* (.033)	.224* (.033)	.226* (.034)	.225* (.034)	.213* (.034)	.223* (.034)	.213* (.034)
1974 and low .....	1.07* (.070)	1.07* (.070)	1.07* (.070)	1.06* (.070)	1.05* (.070)	1.05* (.070)	1.11* (.072)	1.04* (.077)	1.12* (.079)
Firms/100 .....	.501* (.100)	.493* (.101)	.512* (.105)	.352* (.125)	.345* (.137)	.673* (.132)	-.175 (.183)	.284* (.157)	.100 (.232)
Financial employment/100 .....	.154* (.046)	.140* (.054)	.151* (.047)	.131* (.048)	.111* (.060)	.047 (.062)	.090 (.058)	.093* (.052)	.016 (.065)

Unemployment rate .....	.112*	.111*	.112*	.099*	.127*	.034	.097*	.050 <sup>+</sup>
	(.019)	(.019)	(.019)	(.020)	(.021)	(.026)	(.021)	(.028)
GSP/1,000 .....	.182*	.198*	.195*	.235*	.287*	.274*	.391*	.245 <sup>+</sup>
	(.088)	(.094)	(.098)	(.092)	(.099)	(.103)	(.120)	(.128)
Company death .....	1.29*	1.30*	1.30*	1.27*	1.29*	1.29*	1.29*	1.30*
	(.091)	(.092)	(.093)	(.092)	(.093)	(.093)	(.093)	(.093)
Company merged .....	1.31*	1.32*	1.32*	1.30*	1.30*	1.30*	1.30*	1.30*
	(.037)	(.037)	(.037)	(.037)	(.037)	(.037)	(.037)	(.037)
Births/100 .....		.153		-.369	1.66*	3.10*		5.37*
		(.305)			(.582)	(.789)		(1.19)
Deaths/100 .....			-.286	-3.56*	8.33*		-1.86	10.0*
			(.919)	(2.03)	(2.16)		(2.37)	(3.50)
Mergers/100 .....				.523*	1.06*	3.55*	1.08*	3.31*
				(.261)	(.367)	(.824)	(.480)	(1.01)
Births × deaths/100 .....					-.727*			-.788*
					(.135)			(.156)
Births × mergers/100 .....						-.178*		-.208*
						(.048)		(.051)
Deaths × mergers/100 .....							-.043	-.033
							(.146)	(.160)
$\chi^2$ .....	2,735.7	2,735.9	2,735.8	2,739.7	2,744.4	2,755.4	2,744.0	2,782.8
<i>df</i> .....	28	29	29	29	31	31	31	34

NOTE.—SEs in parentheses; significance was calculated using two-tailed *t*-tests for control variables, one-tailed *t*-tests for independent variables. These results cover the work histories of 5,816 managers in 427 firms, who made 4,845 exits from the industry over 26,759 one-year spells. All models include 15 dummy variables to control for job title, which are statistically significant but are not shown, for the sake of clarity.

<sup>+</sup>  $p < .10$ .

\*  $p < .05$ .



Model 2 adds births and shows a positive relationship between organizational founding and rates of job shifts within firms, which supports hypothesis 1. In model 3, the dissolution of existing firms has a negative effect on intraorganizational mobility, which supports hypothesis 4. Organizational merger also strongly diminishes intraorganizational mobility, which supports hypothesis 7. Model 5 brings all three ecological processes together and shows that only the effect of merger remains statistically significant.

Models 6–9 investigate interactions between these ecological processes. These models show no statistically significant interactions, indicating that organizational founding and failure (dissolution and merger) neither reinforce nor dampen each others' effects on movement between jobs within firms. These models fail to improve fit to the data relative to models containing only main effects, according to the chi-square likelihood-ratio test. These results offer no support for hypotheses 11, 14, or 17.

*Moves between organizations.*—Table 6, which shows results for the analysis of interorganizational job shifts, is laid out in the same manner as table 5. It starts with a baseline model containing control variables (including an indicator variable for movement into a newly founded firm and indicator variables for movement out of the focal firm due to merger or dissolution) and assesses the effect of each independent variable separately. The direct effects of ecological processes are strong and positive, as expected. Model 2 shows that the birth of new firms indirectly increases the rate of job shifts across firms. This indirect effect operates in addition to the strong direct effect captured by the indicator variable for movement into a newly founded firm. Both the direct and indirect effects of organizational birth are positive, supporting hypothesis 2. Model 3 shows that the death of existing firms has a negative effect on movement between firms, after controlling for the direct positive effect of dissolution of the focal firm. This result supports hypothesis 5. Model 4 shows that merger has a negative and marginally significant ( $P < .06$ ) effect on interorganizational mobility, after controlling for the positive direct effect of merger of the focal firm. This result offers no support for hypothesis 8. In model 5, which includes all three variables together, only the effect estimate for dissolution remains significant, and that only at the .10 level.

We examine interactions among these ecological processes next. Model 6 shows a positive effect of the interaction between birth and dissolution, as predicted by hypothesis 12; however, this effect is only marginally significant ( $P < .06$ ). Note that the main effect for birth is rendered nonsignificant, while the main effect for dissolution almost trebles in magnitude. The total impact of organizational dissolution (main effect plus interaction) is negative. Model 7 shows a different pattern for the interaction between birth and merger: positive main effects, negative

interaction. This result is opposite to the prediction of hypothesis 15. The total effects of birth and merger (main effects plus interactions) are positive. Model 9 shows a negative interaction between dissolution and merger and positive main effects, as predicted by hypotheses 2, 8, and 18. Finally, model 9 incorporates all main effects and interactions. Only one main effect, for merger, is statistically significant. The interactions show the same pattern as before: positive interaction between birth and dissolution, negative between birth and merger, negative between dissolution and merger.

*Exit from the industry.*—Table 7 investigates exit from the industry. Again, we start with a baseline model containing control variables (including controls for dissolution and merger of the focal firm) and then add the variables measuring industry dynamics. As expected, dissolution and merger of the focal firm have strong positive effects on the rate of exit from the industry. Model 2 shows that the birth of new organizations has, as predicted by hypothesis 3, no impact on exit from the industry when general economic conditions are controlled. In results not shown here, we dropped the variables measuring financial-services employment, unemployment rate, and gross state product and found a strong positive coefficient for birth. This indicates a spurious effect: organizational birth in this industry is correlated with general economic climate. When there is a large number of births, there is also a large number of exits from the industry, which probably represent movement into other flourishing industries. In model 3, the dissolution of existing organizations has a negative but nonsignificant effect on the rate of exit of managers from this industry, after controlling for the positive direct effect of dissolution of the focal firm. This result fails to support hypothesis 6. Model 4 shows that merger increases the rate of exit of managers from this industry, after controlling for the positive direct effect of merger of the focal firm, as predicted by hypothesis 9. In model 5, which contains all three independent variables, the negative effect of dissolution becomes statistically significant and the positive and significant effect of merger is strengthened. The effect of birth, as predicted, remains nonsignificant.

Interactions between founding and failure processes appear to be strong. Model 6 shows a negative effect for the interaction between birth and dissolution, while model 7 shows a similar negative effect for the interaction between birth and merger. These results support hypotheses 13 and 16. Note that in model 6 the formerly negative effect of dissolution is rendered strongly positive and statistically significant, supporting hypothesis 6. Model 8, however, shows no interaction between dissolution and merger, which fails to support hypothesis 19. The fully specified model shows that all main effects and two out of three interactions are statistically significant. These results indicate that the rate of mobility out

TABLE 8  
MULTIPLIER EFFECTS FOR INDEPENDENT VARIABLES

INDEPENDENT VARIABLE	MOVES BETWEEN FIRMS			EXITS FROM INDUSTRY					
	$\beta$	Mult		$\beta$	Mult				
Direct effect:									
Birth .....	1.957	7.078							
Dissolution .....	1.478	4.384		1.295	3.651				
Merger .....	2.275	9.728		1.301	3.673				
	MOVES WITHIN FIRMS			MOVES BETWEEN FIRMS			EXITS FROM INDUSTRY		
	$\beta$	Mult <sub><math>\mu</math></sub>	Mult <sub>max</sub>	$\beta$	Mult <sub><math>\mu</math></sub>	Mult <sub>max</sub>	$\beta$	Mult <sub><math>\mu</math></sub>	Mult <sub>max</sub>
Indirect effect:									
Birth .....	.0099	1.104	1.306	.0124	1.132	1.398	NS		
Dissolution .....	-.0488	.934	.677	-.0506	.932	.677	NS		
Merger .....	-.0217	.772	.489	-.0075	.914	.781	.0052	1.064	1.187
Effect with interactions:									
Birth .....				.0042	1.043	1.120	.0179	1.195	1.620
Dissolution .....				-.0256	.965	.815	.0214	1.030	1.186
Merger .....				.0179	1.237	1.802	.0123	1.158	1.503

NOTE.—NS indicates that a parameter estimate was not statistically significant at the .05 level, two-tailed *t*-tests. For an explanation of the multiplier (Mult) effect calculations, see app. B.

of the industry, while spurred by both organizational failure processes, is attenuated by high levels of industry turmoil. Organizational founding cancels out a large part of the impact of organizational failure.

*Comparing the three types of moves.*—The effects of the three ecological processes differ greatly across the three types of job shift. These differences can be more easily understood by translating effect estimates to multipliers (Mults) of the various mobility rates. Hazard rate models are multiplicative rather than additive. For any continuous variable *X*, that variable's average impact on the rate of mobility can be calculated as follows:  $Mult = \exp(\beta X)$ , where  $\beta$  is the parameter estimate and *X* is the mean value of the variable. The impact of a continuous variable thus depends on the parameter estimate and the value of that variable. For any indicator variable (value = 0 or 1), its impact on the rate of mobility is simply  $\exp(\beta)$ , which shows the increase or decrease in the mobility rate when that indicator variable shifts from zero to one. Table 8 presents multipliers for the direct effects of the ecological processes. It also shows multipliers for the indirect effects of these processes, calculated at two values: the mean of each independent variable and its maximum observed value. Finally, this table presents calculations of the total impact (main effect plus statistically significant interactions) for all three ecological processes.

Consider the direct effects first, as they are simplest. When managers in this industry move between firms in the industry, they are seven times more likely to move into a newly founded firm than they are to move into an older, established firm. When managers in this industry move between firms, they are likely to do so by leaving a dissolved or merged firm: the rate of interorganizational mobility is increased fourfold by organizational dissolution and almost tenfold by merger. Finally, when managers in this industry leave the industry (for jobs in other industries, retirement, unemployment, or further schooling), they most likely do so by leaving dissolved or merged firms: the rate of exit from the industry is increased almost four times by both of these processes.

The indirect effects of organizational birth are consistent. For two out of three outcomes, they are positive and of similar magnitude: on average, birth increases intraorganizational and interorganizational mobility rates 10.4% and 13.2%, respectively, while the maximum impacts are 30.6% and 39.8%, respectively. For the third outcome, exit from the industry, the effect is null after controlling for general economic conditions and positive without those controls. These results are intuitively appealing, since the creation of new organizations opens many new managerial jobs and thereby starts new managerial vacancy chains, which pull people up within firms and across firms. The positive effect for exit occurs only when we omit controls for general economic conditions, indicating a spurious relationship between thrift founding rates, general economic climate, and rates of exit from the thrift industry to other industries.

The indirect effect of organizational dissolution is negative for movement within firms and between firms in the industry and positive but nonsignificant for exit from the industry (until we include interactions). On average, dissolution lowers intraorganizational and interorganizational mobility rates by 6.6% and 6.8%, respectively. These results make sense when considered from the perspective of chains of mobility. The death of a savings and loan association has the direct effect of pushing managers out into jobs in other thrifts. But this process also has the indirect effect of shutting down mobility chains that operate across firms and thus has negative indirect effects on movement within and between firms in this industry. When we control for interactions between firm birth and dissolution, the main effect of dissolution is positive. This indicates that employees shut out of the mobility chains that remain in surviving organizations are forced to exit the industry.

The indirect effects of organizational merger also vary, being negative for intra- and interorganizational mobility and positive for exit from the thrift industry. On average, merger reduces intraorganizational mobility by 22.8%. Merger has smaller impacts on interorganizational mobility

and exit from the industry. It reduces interorganizational mobility by 8.6% and boosts exit from the industry by 6.4%. Merger directly increases interorganizational mobility and exit from the industry, consonant with previous empirical research on merger and managerial turnover (Unger 1986; Walsh 1988), hence the strong positive effect of merger of the employing company on interorganizational mobility and exits from the industry. But merger has the indirect effect of dampening the mobility of individuals other than those in the acquired firms, because it closes vacancy chains, freezing many individuals in their current positions, thereby reducing intraorganizational and interorganizational mobility rates. The positive indirect effect of merger on exit from the industry stems from the downsizing that follows merger, when many employees of the acquiring firm leave the industry.

As noted above, we found no effect of interactions between ecological processes on intraorganizational mobility but strong effects of interactions for the other two types of mobility. For any independent variable, its total impact can be calculated as follows:

$$\text{Mult} = \exp(\beta_1 X_1 + \beta_2 X_1 X_2 + \beta_3 X_1 X_3),$$

where  $X_1$  is the independent variable of interest,  $X_2$  and  $X_3$  are the average values of the moderating variables,  $\beta_1$  is the main effect estimate, and  $\beta_2$  and  $\beta_3$  are the interaction effect estimates. In other words, the impact of any variable depends on its level, the levels of moderating variables, and all parameter estimates (main effect and interactions). Table 8 presents overall multiplier effects calculated using the results of model 9 in tables 5, 6, and 7. For each independent variable, the complete multiplier effect is calculated at two values (the mean and the maximum of the variable of interest), and the interaction effects are calculated at the average of the moderating variables. For instance, the overall impact of birth on interorganizational mobility, controlling for the moderating effects of dissolution and merger, is calculated as follows:

$$\begin{aligned} \text{Mult} &= \exp[(.0115 + .00814 \times 1.40 - .00157 \times 11.92) \times \text{Births}] \\ &= \exp[.0042 \times \text{Births}], \end{aligned}$$

where Births is the number of firm births and the average number of dissolutions and mergers across the observation period are 1.40 and 11.92, respectively. At the mean level of birth (9.98), this translates to an increase of 4.3% in interorganizational mobility.

On average, the total impacts of dissolution and merger (main effects plus statistically significant interactions) are negative and positive, respectively. Including interactions with birth and merger attenuates the negative effect of dissolution on interorganizational mobility. Including

interactions with birth and dissolution reverses the sign of the merger effect on interorganizational mobility, from negative to positive. For exit from the industry, incorporating interactions increases the magnitude of merger and dissolution effects.

Compare the magnitudes of the effects of ecological processes and their levels of statistical significance for interorganizational mobility versus intraorganizational mobility and exit from the industry. Hypothesis 10 predicts that ecological processes will have a greater impact on interorganizational (intraindustry) mobility than on intraorganizational or inter-industry mobility. In general, this hypothesis was supported. First, the main effects (direct plus indirect) of all three ecological processes on interorganizational mobility were always larger in magnitude than the main effects on intraorganizational mobility or exit from the industry. Second, we found no effect of interactions between ecological processes for intraorganizational mobility but strong evidence of interactions for interorganizational mobility and exit from the industry. For instance, considering main effects only, the indirect impact of birth on interorganizational mobility is 25% greater than its impact on intraorganizational mobility (13.2% vs. 10.4%). While the indirect impact of dissolution on interorganizational mobility is almost identical to that on intraorganizational mobility (6.8% vs. 6.6%), the direct impact of dissolution on interorganizational mobility also has to be considered. On average, the indirect impact of merger on intraorganizational mobility is greater than the indirect impact on interorganizational mobility (22.8% vs. 8.6%), but when the direct impact of merger on interorganizational mobility is added, the overall result supports hypothesis 10. Neither birth nor dissolution had statistically significant effects on exit from the industry, although the parameter estimate for dissolution was rendered significant after interaction terms were introduced. The average indirect impact of merger on exit from the industry was smaller in magnitude than this variable's average indirect impact on interorganizational mobility (6.4% vs. 8.6%). The direct effect of merger and dissolution on exit from the industry was also smaller than the direct effect on interorganizational mobility ( $\text{Mult} > 4$  vs.  $\text{Mult} < 4$ ). Our results thus offer considerable support for hypothesis 10.

## CONCLUSIONS

In this article, we proposed that a hitherto ignored set of factors can explain much of the variation in individual career movement. Specifically, we proposed that the vital processes of employing organizations—birth, merger, and dissolution—have strong effects on the rate of movement of individual employees both within and between employing

organizations. We found strong support for this proposition when we investigated the movement of managers in the California savings and loan industry over 20 years. Organizational founding and failure are directly responsible for a large proportion of managerial job shifts in this industry and affect directly a large fraction of the industry's managerial employees. Moreover, organizational birth, dissolution, and merger in this organizational population have substantial and varied effects on internal and external mobility.

Our first aim is to reframe research on career mobility. We hope to expand theorists' conceptions of labor markets to include the dynamics introduced by organizational founding and failure. The results presented here demonstrate that such processes have strong effects on career mobility in one industry. Both the direct and indirect effects of organizational birth and death are considerable. But these processes are ignored in models that assume employing organizations to be permanent fixtures in labor markets. Researchers studying social mobility processes must recognize the changes wrought in labor markets by ecological processes such as founding and failure; therefore, they must incorporate a new set of explanatory factors in their models. The specifics of labor-market dynamics may differ between industries. For example, the skills of newspaper publishers may be more easily transferred to other industries than are the skills of thrift managers. While the effects of industry dynamics on career mobility would likely be attenuated if individuals did not build up firm- or industry-specific skills, these effects would still not be eliminated completely.

In this study, we were unable to examine how individual characteristics interact with structural changes to influence career mobility, because the only individual-level data we have concern tenure and job title (level and function). This limitation is serious, for much previous research has demonstrated that individual characteristics, such as education and socioeconomic background, interact with structural forces to determine career outcomes. For instance, work-force experience buffers employees from labor-market turbulence (DiPrete 1993). We contend, however, that our results demonstrate strong and interesting effects of social-structural dynamics, on career processes. These effects have generally been ignored by even the most sophisticated theories of individual-structure interaction. Research on social stratification and mobility would take a huge leap forward if it applied our model and findings to richer data sources and assessed the interplay between individuals and social structure in fully dynamic contexts.

Future research ought to complicate the picture and look more closely at different types of job shifts, considering the differential impact of

organizations' vital processes on upward, downward, and lateral moves. Incorporating information on organizational birth, dissolution, and merger processes would facilitate distinguishing between voluntary and involuntary job shifts.

Another fruitful avenue of investigation would be to study the movement of individuals in one profession or one occupation between jobs in many different organizational populations. For instance, researchers could assess the impact of the shifting demography of health care organizations on the mobility and status attainment of doctors, nurses, and members of other health care occupations. How has the rise of new corporate forms of health care (e.g., health maintenance organizations, preferred-provider organizations, and multihospital systems) affected the career trajectories and incomes of doctors practicing various specialties? How have such trends affected the form and duration of employment relations for health care professionals? Research that addressed such questions would bring us full circle and would make clear why organizational diversity is important by revealing the effects of such diversity on the careers of individuals (Hannan 1988; Hannan and Freeman 1989, pp. 7–10).

Our second aim is to expand the scope of research in organizational ecology to encompass more than just the processes of organizational founding, failure, and change. This study has brought to light a new set of phenomena for empirical investigation by organizational ecologists. In doing so, we demonstrated that the ecological paradigm is well suited to addressing the question of how macro social structure influences micro outcomes through the medium of formal organizations (McPherson 1983). We have moved closer to bringing the study of organizations back into the mainstream of sociology by reorienting research on organizations so that it speaks to fundamental problems of social organization and social change (Hannan and Freeman 1989, pp. 1–44). In this study, we demonstrated the consequences of shifting organizational diversity for social mobility processes, which theorists have labeled as a major discovery for organizational ecology (Hannan 1988; Hannan and Freeman 1989, pp. 28–44; Hannan and Carroll 1992, p. 206).

This study has by no means exhausted the potential application of organizational ecology to the study of other social phenomena. Future research could examine directly the micro-structural consequences of ecologically induced career mobility, specifically investigating how movement of individuals into and out of employing organizations affects the demographic composition of these organizations (i.e., the distribution of these organizations' workforces in terms of such attributes as gender, race, age, and tenure). Linking ecological processes to organizational



demography may provide a way to explain the demographic metabolism of organizations—individuals' entry into and exit from organizations—which is of great importance for studying organizational change.

## APPENDIX A

TABLE A1

DESCRIPTION OF VARIABLES USED IN TABLE 2 AND TABLES 4–7

Variable	Description	Values
Move within .....	Manager changed jobs within a firm	Yes = 1
Move out .....	Manager moved from one firm to another	Yes = 1
Exit .....	Manager left the California savings and loan industry	Yes = 1
Births .....	No. of firms created	
Deaths .....	No. of firms dissolved	
Mergers .....	No. of firm mergers	
Company death .....	Company dissolved that year	Yes = 1
Company merged .....	Company merged that year	Yes = 1
Go to new company .....	Manager moved to a new company that year	Yes = 1
Tenure in company .....	Manager's tenure in the firm	Years
Tenure in job .....	Manager's tenure in the job	Years
Left-truncated history ....	Left-truncated work history, manager entered industry before 1969	Yes = 1
Title .....	Manager's job title	Coded on a 16-point scale from "chairman" = 1 to "assistant vice president" = 16
1974 and low .....	Indicator for a manager at the VP level or lower whose name appeared in the 1974 but not the 1975 reports	Yes = 1
ln(firm age) .....	Log (firm age)	Years
ln(assets) .....	Firm size as measured by assets	Millions of dollars
ln(managers) .....	Firm size as measured by the no. of managers	<i>N</i> managers
Firms .....	California savings and loan industry density	<i>N</i> thrifts
Financial employment ...	Total employment in the California financial services industry	Thousands of employees
Unemployment rate .....	California unemployment rate	Percentage
GSP .....	California gross state product	Millions of dollars

## APPENDIX B

## Explanation of Multiplier Effect Calculations

For the direct effects of ecological processes (company birth, death, or merger, represented by binary variables coded "0" or "1"), where the estimated parameter is  $\beta$ , the multiplier (Mult) =  $\exp(\beta)$ . For the indirect effects of ecological processes, multipliers are calculated using the following formula:

$$\text{Mult} = \exp(\beta X),$$

where  $\beta$  is the effect estimate for the independent variable of interest and  $X$  is the value of that variable. The multiplier effect of each independent variable is estimated at two different values: the mean (Mult <sub>$\mu$</sub> ) and the maximum observed value (Mult<sub>max</sub>). The cumulative impact of each ecological process (main effect + interaction effects) is calculated similarly:

$$\text{Mult} = \exp(\beta_1 X_1 + \beta_2 X_1 X_2 + \beta_3 X_1 X_3),$$

where  $\beta_1$  is the estimated main effect,  $\beta_2$  and  $\beta_3$  are the estimated interaction effects,  $X_1$  is the value of the variable of interest, and  $X_2$  and  $X_3$  are the mean values of the moderating variables. Only statistically significant interactions are included in the total multiplier. Increases or decreases in the rate of mobility can be calculated as Mult - 1. For example, the multiplier for the indirect effect of the industry birthrate on the rate of mobility within firms, calculated at the mean value of the birthrate, is 1.104, which translates into an average 10.4% increase in this type of mobility caused by firm births.

## REFERENCES

- Allmendinger, Jutta. 1989. *Career Mobility Dynamics: A Comparative Analysis of the United States, Norway, and West Germany*. Studien und Berichte 49. Berlin: Max-Planck-Institut für Bildungsforschung.
- Baron, James N. 1984. "Organizational Perspectives on Stratification." *Annual Review of Sociology* 6:737-65.
- Baron, James N., and William T. Bielby. 1980. "Bringing the Firms Back In: Stratification, Segmentation, and the Organization of Work." *American Sociological Review* 49:454-73.
- Baum, Joel A. C., and Christine Oliver. 1991. "Institutional Linkages and Organizational Mortality." *Administrative Science Quarterly* 36:197-218.
- Berk, Richard A. 1983. "An Introduction to Sample Selection Bias in Sociological Data." *American Sociological Review* 48:386-98.
- Birch, David. 1981. *Firm Behavior as a Determinant of Economic Change*. Cambridge, Mass.: MIT Program on Neighborhood and Regional Change.
- . 1987. *Job Creation in America*. New York: Free Press.
- Blau, Peter M., and Otis D. Duncan. 1967. *The American Occupational Structure*. New York: Wiley.

- Blossfeld, Hans-Peter. 1986. "Career Opportunities in the Federal Republic of Germany: A Dynamic Approach to the Study of Life-Course, Cohort, and Period Effects." *European Sociological Review* 2:208-25.
- Buono, Anthony F., and James L. Bowditch. 1989. *The Human Side of Mergers and Acquisitions*. San Francisco: Jossey-Bass.
- Brown, Charles, and James L. Medoff. 1988. "The Impact of Firm Acquisitions on Labor." Pp. 9-25 in *Corporate Takeovers: Causes and Consequences*, edited by A. Auerbach. Chicago: University of Chicago Press.
- Carroll, Glenn R., Heather A. Haveman, and Anand Swaminathan. 1992. "Careers in Organizations: An Ecological Perspective." *Life-Span Development and Behavior* 11:112-44.
- Cartwright, Sue, and Cary L. Cooper. 1992. *Mergers and Acquisitions: The Human Factor*. Oxford: Butterworth Heinemann.
- Cox, D. R., and D. Oakes. 1984. *Analysis of Survival Data*. London: Chapman & Hall.
- DiPrete, Thomas A. 1993. "Industrial Restructuring, Organizational Labor Markets, and the Mobility Response of American Workers in the 1980s." *American Sociological Review* 58:74-96.
- Doeringer, Peter B., and Michael J. Piore. 1971. *Internal Labor Markets and Manpower Analysis*. Lexington, Mass.: Heath.
- Duncan, Otis Dudley, and Leo F. Schnore. 1959. "Cultural, Behavioral, and Ecological Perspectives in the Study of Social Organizations." *American Journal of Sociology* 65:132-46.
- Featherman, David L., and Robert M. Hauser. 1978. *Change and Opportunity*. New York: Academic Press.
- Granovetter, Mark S. 1984. "Small Is Bountiful: Labor Markets and Establishment Size." *American Sociological Review* 49:323-34.
- . 1986. "Labor Market Mobility, Internal Markets, and Job Matching: A Comparison of the Sociological and Economic Approaches." *Research in Social Stratification and Mobility* 5:3-39.
- Guo, Guang. 1993. "Event-History Analysis for Left-truncated Data." *Sociological Methodology* 23:217-43.
- Hachen, David S. 1992. "Industrial Characteristics and Job Mobility Rates." *American Sociological Review* 57:39-55.
- Hall, Robert E. 1982. "The Importance of Lifetime Jobs in the U.S. Economy." *American Economic Review* 72:716-24.
- Hannan, Michael T. 1988. "Social Change, Organizational Diversity, and Individual Careers." Pp. 161-74 in *Social Change and the Life Course*, vol. 1. Edited by M. Riley. Newbury Park, Calif.: Sage.
- Hannan, Michael T., and Glenn R. Carroll. 1992. *Dynamics of Organizational Populations*. New York: Oxford University Press.
- Hannan, Michael T., and John Freeman. 1989. *Organizational Ecology*. Cambridge, Mass.: Harvard University Press.
- Hannan, Michael T., and James Ranger-Moore. 1990. "The Ecology of Organizational Size Distributions: A Microsimulation Approach." *Journal of Mathematical Sociology* 15:67-89.
- Haveman, Heather A. 1992. "Between a Rock and a Hard Place: Organizational Change and Performance under Conditions of Fundamental Environmental Transformation." *Administrative Science Quarterly* 37:48-75.
- Hawley, Amos H. 1950. *Human Ecology: A Theory of Community Structure*. New York: Ronald Press.
- Heckman, James J. 1979. "Sample Selection Bias as a Specification Error." *Econometrica* 47:153-61.
- Hedström, Peter M. E., and Eva Wallin. 1988. "The Structure of Organizations and

- the Structure of Class." *Research in Social Stratification and Mobility* 7:225-46.
- Jovanovic, Boyan. 1979a. "Firm-specific Capital and Turnover." *Journal of Political Economy* 87:1246-60.
- . 1979b. "Job Matching and the Theory of Turnover." *Journal of Political Economy* 87:972-90.
- Korn, Helaine J., and Joel A. C. Baum. 1994. "Community Ecology and Employment Dynamics: A Study of Large Canadian Companies, 1985-1991." *Social Forces*. In press.
- Leonard, Jonathan. 1987. "In the Wrong Place at the Wrong Time." Pp. 141-63 in *Unemployment and the Structure of Labor Markets*, edited by K. Lang and J. Leonard. New York: Basil Blackwell.
- Magnet, Myron. 1984. "Help! My Company Has Just Been Taken Over." *Fortune* (July 9): 44-49.
- Mark, Jerome A. 1987. "Technological Change and Employment: Some Results from BLS Research." *Monthly Labor Review* 110 (4): 26-29.
- McPherson, J. Miller. 1983. "An Ecology of Affiliation." *American Sociological Review* 48:519-32.
- Miner, Anne S. 1990. "Structural Evolution through Idiosyncratic Jobs: The Potential for Unplanned Learning." *Organization Science* 1:195-210.
- . 1991. "Organizational Evolution and the Social Ecology of Jobs." *American Sociological Review* 56:772-85.
- Parnes, Herbert S., Belton M. Fleisher, Robert C. Miljus, Ruth S. Spitz, and Associates. 1970. *The Pre-retirement Years: A Longitudinal Study of the Labor Market Experience of Men*, vol. 1. U.S. Manpower Administration. Washington, D.C.: Government Printing Office.
- Parnes, Herbert S., Karl Egge, and Paul J. Andrisiani. 1973. *The Pre-retirement Years: A Longitudinal Study of the Labor Market Experience of Men*, vol. 3. U.S. Manpower Administration. Washington, D.C.: Government Printing Office.
- Pfeffer, Jeffrey, and Yinon Cohen. 1984. "Determinants of Internal Labor Market Arrangements in Organizations." *Administrative Science Quarterly* 29:550-72.
- Roos, Leslie J. 1978. "Institutional Change, Career Mobility, and Job Satisfaction." *Administrative Science Quarterly* 23:318-30.
- Rosenbaum, James E. 1979. "Organizational Career Mobility: Promotion Chances in a Corporation during Periods of Growth and Contraction." *American Journal of Sociology* 85:21-48.
- Rosenfeld, Rachel A. 1992. "Job Mobility and Career Processes." *Annual Review of Sociology* 18:39-61.
- Slocum, W. 1966. *Occupational Careers*. Chicago: Aldine.
- Sørensen, Aage B. 1975. "The Structure of Intragenerational Mobility." *American Sociological Review* 40:456-71.
- . 1977. "The Structure of Inequality and the Process of Attainment." *American Sociological Review* 42:965-78.
- Sørensen, Aage B., and Hans-Peter Blossfeld. 1989. "Socioeconomic Opportunities in Germany in the Post-War Period." *Research in Social Stratification and Mobility* 8:85-106.
- Spilerman, Seymour. 1977. "Careers, Labor Market Structure, and Socioeconomic Achievement." *American Journal of Sociology* 83:551-93.
- Stewman, Shelby. 1975. "An Application of Job Vacancy Chain Model to a Civil Service Internal Labor Market." *Journal of Mathematical Sociology* 4:37-59.
- . 1988. "Organizational Demography." *Annual Review of Sociology* 14: 173-202.
- Stewman, Shelby, and Suresh L. Konda. 1983. "Careers and Organizational Labor Markets: Demographic Models of Organizational Behavior." *American Journal of Sociology* 88:637-85.

- Stolzenberg, Ross M. 1978. "Bringing the Boss Back In: Employer Size, Employee Schooling, and Socioeconomic Achievement." *American Sociological Review* 43: 813-28.
- Tuma, Nancy Brandon. 1976. "Rewards, Resources, and the Rate of Mobility: A Nonstationary Multivariate Stochastic Model." *American Sociological Review* 41: 338-60.
- . 1980. *Invoking RATE*, 2d ed. Menlo Park, Calif.: SRI Press.
- Tuma, Nancy Brandon, and Michael T. Hannan. 1984. *Social Dynamics: Models and Methods*. Orlando, Fla.: Academic Press.
- U.S. Small Business Administration. 1983. *The State of Small Business*. Washington, D.C.: Government Printing Office.
- Unger, H. 1986. "The People Trauma of Major Mergers." *Journal of Industrial Management (Canada)* 10 (17): 19-27.
- Walsh, James P. 1988. "Top Management Turnover following Mergers and Acquisitions." *Strategic Management Journal* 9:173-83.
- White, Harrison C. 1970. *Chains of Opportunity: System Models of Mobility in Organizations*. Cambridge, Mass.: Harvard University Press.
- Wilensky, Harold L. 1961. "Orderly Careers and Social Participation: The Impact of Work History on Social Integration in the Middle Class." *American Sociological Review* 26:521-39.
- Yamaguchi, Kazuo. 1991. *Event History Analysis*. Newbury Park, Calif.: Sage.

# Population Aging, Class Context, and Age Inequality in Public Spending<sup>1</sup>

Fred C. Pampel  
*University of Colorado*

Although recent experiences in the United States suggest that population aging, for both demographic and political reasons, favors public spending for the elderly relative to children, many European nations with different political environments show no such pattern. This paper investigates age inequality or bias in public spending for these two age-based dependent groups using annual time-series data for 18 advanced industrial democracies. The results show that a large aged population reduces age inequality in favor of the elderly in the presence of (1) class-based corporatism and (2) strong leftist parties, whereas a large aged population increases age inequality in the absence of these two factors.

## INTRODUCTION

Trends in the relative status of children and the elderly in the United States have promoted concern with the consequences of population aging for public policy. Families with children have experienced increasing poverty during the late 1970s and early 1980s while poverty among the elderly has declined dramatically (Duncan and Smith 1989; Bianchi 1990). Viewed in the long run, the disadvantage of children relative to the aged reverses previous advantage (Smolensky, Danziger, and Gottschalk 1988). The more recent economic risks of children stem in large part from family change (Eggebeen and Lichter 1991) and low wages of baby-boom parents entering a crowded labor market (Easterlin 1987). Yet, because the decline in government spending for social assistance and jobs programs coincides with the rise in poverty, public policies appear to be a

<sup>1</sup> I would like to offer my thanks to the following: the National Institute of Child and Health Development (grant HD28985) for financial support; participants at the session on the welfare state at the Midwest Sociological Meetings in Chicago, 1992, and the Theory Workshop at the University of Iowa, January 1994, for comments on an earlier version of the paper; my coauthors of previous papers on related topics, Paul Adams, Robin Stryker, and John Williamson, for their influence on this effort, and the *AJS* reviewers for helpful suggestions. Correspondence may be addressed to Fred C. Pampel, Population Program, Campus Box 484, University of Colorado, Boulder, Colorado 80309-0484.

© 1994 by The University of Chicago. All rights reserved.  
0002-9602/95/10001-0005\$01.50

crucial component of the declining status of children (Bane and Ellwood 1989). Low spending for children is highlighted even more by the generous growth of spending for the elderly (Preston 1984).

Although children and the elderly no more compete with each other for the same government funds than they compete with innumerable other interests groups, and although spending for one group does not necessarily reduce spending for the other (any more than it does for other programs), the contrasting trends in public spending for the two large, age-based, dependent (nonworking) groups tend to highlight the political standing of one group relative to the other.<sup>2</sup> As support for both groups has become more and more a public responsibility, and as public transfers comprise an increasingly large part of the income of these groups, political influence of the groups emerges as central to economic well-being. A growing aged population, composed increasingly of middle-class, politically active retirees, has increased its political influence, while declining fertility and increasing concentration of children in single-parent, disadvantaged families have reduced the political influence of families with children. If the size of demographic groups translates into political power, the trends in the status of children and the elderly will continue to diverge.

In considering the impact of population aging and political influence on public support of young and old age groups, however, the difference between the United States and Europe warrants attention. European nations generally have older age structures and lower fertility levels than the United States, but exhibit quite different patterns of public spending (Smeeding, Torrey, and Rein 1988; Erikson and Fritzell 1988). For example, family allowance programs, which provide regular cash benefits to families in partial compensation for the cost of raising children, have in many nations increased rather than declined with aging of the population (O'Higgins 1988; Pampel and Adams 1992). The availability of family benefits to nearly all parents in European nations contrasts sharply with the reliance in the United States on means-tested programs for children,

<sup>2</sup> One need not accept the terminology of the intergeneration equity debate that pits the aged against children to study relative spending for children and the elderly. Groups such as Americans for Generational Equity have raised moral questions by claiming that the elderly have enriched themselves at the direct expense of the young (see Quadagno [1989] for a review of the equity movement). In opposition, many view such claims as a threat to the legitimacy of efforts on behalf of the aged at a time when both groups—young and old—need more protection. They view the aged and children as equally vulnerable to loss of public support and ultimately as allies rather than competitors in the political process (Kingson, Hirshorn, and Cornman 1986). Without accepting claims that spending for the elderly comes at the expense of children, one can measure spending levels of one program relative to the other and to compare the effect of societal conditions on relative spending.

that is, programs that require below-poverty income levels for receipt of benefits.

The age-based differences in social welfare policy across nations may stem as much from the sociopolitical environment as the inherent consequences of population aging (Heclo 1988; Myles and Quadagno 1991). Arguments concerning the political influence of age groups presume a pluralist political environment, such as in the United States, in which diverse, specialized, and numerous interest groups compete for influence. Limited public support for means-tested programs directed to economically and politically disadvantaged groups in a pluralist political environment may prove as important as demographic trends alone for the position of children relative to the elderly in the United States. The less pluralist political environments of many European nations, which organize and centralize interests on the basis of class, religion, or ethnicity, may inhibit age-based politics and encourage political solidarity across generations.

Despite numerous comparative studies of welfare spending and its component programs, little systematic evidence on the relative public support of children and the elderly exists. Most studies of the welfare state aggregate spending for diverse programs, ranging from unemployment to health care to social assistance along with spending specifically for children and the elderly, into single, summary measures (Wilensky 1976; Cameron 1978; Stephens 1979; Hicks and Swank 1992; Friedland and Sanders 1986; O'Connor and Brym 1988). As programs disproportionately benefiting the aged—such as pensions, health care, and disability—dominate the aggregate measures, they slight the role of spending for children. Similarly, studies focusing on individual programs most often select pension spending, which is generally the largest and most expensive one (Myles 1984; Pampel and Williamson 1985; Palme 1991).<sup>3</sup>

Among studies that do explicitly compare spending for the young and old, all have been primarily descriptive, either of trends within one country or of cross-sectional differences across nations. After Preston's (1984) presentation of trends in the United States, other studies examined poverty and spending in more detail and for longer time periods (Levy 1987; Jencks and Torrey 1988; Smolensky et al. 1988; Zill and Rogers 1988). Similar studies of single countries describe trends for Great Britain (John-

<sup>3</sup> Castles (1982) and Pampel and Williamson (1988, 1989) give cursory attention to family allowances in the study of multiple programs, and Pampel and Adams (1992) and Wennemo (1992) study programs for children in more detail. However, these studies leave the potential link between spending for the young and old unexplored. Wilensky (1990) examines a scale based on policies for family leave, day care, and flexible retirement for a cross-sectional sample of 18 nations, but his study combines rather than compares policies for children and the elderly.



son and Falkingham 1988), New Zealand (Thomson 1989), Sweden (Erikson and Fritzell 1988), and Japan (Preston and Kono 1988). A volume edited by Myles and Quadagno (1991) collects a number of case studies of national responses to emerging issues of intergenerational equity, and a volume edited by Kamerman and Kahn (1978) presents case studies of national family policies. Cross-sectional studies compare the economic well-being of the old and young across several nations, but without the analysis of crucial trends within nations (Bradshaw and Piachaud 1980; Kahn and Kamerman 1983; Esping-Andersen 1985, 1990; Esping-Andersen, Rainwater, and Rein 1988; Smeeding and Torrey 1988; Smeeding, Torrey, and Rein 1988). Overall, the research indicates that no single direct relationship exists between the size of age groups and the patterns of public spending. That valuable insight discredits simple hypotheses about population aging and age inequality. However, none of the studies makes the systematic comparisons across multiple countries or time points needed to examine the independent and joint effects of both demographic and political structures on policy outcomes.<sup>4</sup>

The lack of integrative models in the empirical literature on population-related public transfer programs reflects a more general, theoretically based division of labor between demographers and political sociologists in the area.<sup>5</sup> Empirical studies of welfare spending have tended to pit demographic theories that emphasize the importance of changing age structure (Wilensky 1975; Pampel and Williamson 1989) against class theories that emphasize the relative economic and political power of capital and labor (Stephens 1979; Myles 1984; Korpi 1989). The failure to find consistent empirical support for either view suggests that advocates have, in their search for a dominant explanation, contrasted too strongly the alternative views of the underlying sources of public spending for

<sup>4</sup> O'Higgins's (1988) study comes closest with a detailed description of spending trends for pensions, health care, education, and family benefits for 10 nations between 1960 and 1980, but lacks analysis of the determinants. Without more systematic comparisons or causal analyses, a thorough accounting of the patterns and sources of age inequality in public benefits remains lacking.

<sup>5</sup> Demographers tend to present figures on population change with straightforward projections of the problems and possibilities policymakers can expect (Holzman 1988; Ermisch 1989; Gilliland 1989). This assumes that the direct relationship between government policy and demographic change demonstrated to exist over recent periods will continue unchanged into the future. In contrast, political sociologists and policy experts tend to take demographic change as given and emphasize the constellation of political and economic forces that determine policy outcomes (Heclo 1974; Ruggie 1984; Esping-Andersen et al. 1988). They assume that the same demographic change will result in quite different policies given different political characteristics or that different demographic changes will result in similar policies given similar political structures (Furniss 1986; Myles 1984).

children and the elderly. In reaction to the lack of consensus, tentative movement has occurred in the quantitative welfare state literature toward integrative models in which the political environment shapes the impact of social and demographic change (Hicks, Swank, and Ambuhl 1989; Pampel, Williamson, and Stryker 1990; Esping-Andersen 1990; Hicks and Misra 1993). The attempt to link populations and politics by modeling their combined influence follows from more general dissatisfaction with the ability of additive, linear models to reflect the nuances of historical context (Griffin, O'Connell, and McCammon 1989; Ragin 1987). Capturing complexities in public support for children and the elderly likewise requires study of the joint impact of political context and demographic change.

As an effort in this direction, this study examines national and temporal differences in age-based public policies among the high-income democracies. It describes age inequality in spending by examining the relationship between levels of pension spending for the elderly and levels of family allowance spending for children across 18 nations with annual time-series data from 1959 through 1986. The data go beyond single-nation or cross-sectional analyses that typify most treatments of programs for children and the elderly; they improve on studies of aggregate welfare spending by explicitly focusing on the dominant age-based programs. The analysis then tests the thesis that, under certain political conditions, governments increase rather than decrease transfers to the young in response to population aging. It demonstrates with multivariate techniques how the combination of political and demographic conditions promotes generational solidarity or age equality in public policy rather than generational competition or age inequality.

## THEORIES AND HYPOTHESES

Two competing theories of social policy—one demographic, one class based—make different predictions concerning the effects of population structure on public support of children and the elderly. Because the theories also differ in the political processes that they assume to mediate population structure and policy, each applies better to some socio-political contexts than others. The key contextual factor is the extent to which social and political structures organize, centralize, and institutionalize class interests in national policy-making and electoral competition.

### Age-Group Size and Interest-Group Competition

The first theory of public policy emphasizes the demographic determinants of inequality in spending for children and the elderly. By virtue of

demographic accounting alone, spending rises or falls when the size of age groups receiving benefits increases or decreases. More important, demographic change has political implications. As a political asset, group size comes to favor the elderly and to disadvantage children and families in aging populations. In democracies, public decisions concerning welfare spending "are obviously influenced by the power of special interest groups, and that power is in turn a function of the size of the groups" (Preston 1984, pp. 445–56).<sup>6</sup> Support for pensions emerges most strongly among growing numbers of middle-class aged persons who provide the legitimacy and political influence needed for higher spending. Families with children appear to be less effective advocates of their interests: compared to the elderly they are (1) more difficult to organize, (2) declining in relative size, (3) less likely to participate politically, and (4) increasingly concentrated in disadvantaged segments of the population. Thus, the theory predicts that population aging lowers spending per person for children and raises it for the elderly.

The argument, applied primarily but not exclusively to the U.S. experience,<sup>7</sup> assumes a competitive pluralist political environment and diverse, numerous, and specialized interest groups. Groups defined by age as well as region, class, industry, gender, and other characteristics compete for political power and beneficial policies. Because interests organize themselves into an unspecified number of nonhierarchical, voluntary, and competitive groups, they attempt to influence policy relevant to narrowly defined goals. Bargaining thus promotes concerns with particular programs in which specialized groups have direct interests, such as pensions for the aged or unemployment benefits for workers. The absence of (1) powerful class-based parties with ideologically coherent programs and (2) a correspondingly strong labor movement in pluralist nations both reinforces and is reinforced by these particularistic tendencies.

### Class Politics and Corporatism

The second theory focuses on class resources as the source of variation in public spending. Even for age-based programs like pensions or family

<sup>6</sup> Because of the free-rider problem, large group size may deter effective mobilization. Still, with selective incentives for joining interest organizations (such as travel and pharmaceutical discounts), the aged have become an effective lobbying group; with common interests in pension legislation, they represent an unrealized, yet potentially powerful, voting bloc (Pampel and Williamson 1989).

<sup>7</sup> Thomson (1989) makes much the same argument applied to New Zealand and Britain.

allowances, class theories locate welfare state outcomes precisely in the power resources of labor and capital (Korpi 1983; Myles 1984). They view members of the working class, whose influence on public policy stems from strong union organizations that mobilize support for leftist political parties, as the primary proponents and supporters of the welfare state. Nations with sustained social democratic, socialist, or labor-party rule typically offer generous universal programs based on citizenship rights to receipt of benefits for both families with children and the aged (Stephens 1979; Korpi 1989; Esping-Andersen 1990). Nations that experience prolonged periods of rightist rule limit spending for both family allowances and pensions (Castles 1982).

The centrality of the class-based dispersion of political power tends to negate the political influence of demographically defined groups. The theory argues class membership represents the dominant cleavage, source of identification, and organizational line of mobilization within industrial societies. Demarcating interests in ways that highlight class associations relative to other lines of conflict, particularly those based on age, suggests that policymakers respond less to age-group size than class-group size. Thus, parochial age-based interests become less important than encompassing class interests, and direct interest group pressure becomes less important for policy-making than broader ideological goals. A broad welfare state that favors redistribution to both age groups minimizes age competition within the working class. In the absence of strong working-class political parties, spending stays low for both children and the aged.

The constellation of class power can moderate the effect of population aging in another way. In the presence of a strong working class and working-class political party, the growth of the size of the aged population and aggregate spending on pensions may promote spending for children (Pampel and Adams 1992). The reason is that the goals of universalism and social solidarity stress equalization of the family burden across generations (Ruggie 1984; Kamerman and Kahn 1988; Wennemo 1992). An egalitarian ideology fosters a view that those who rear children contribute in the long run to the old age security of those who do not and that all should share those costs (Adams 1989, 1990). The egalitarian motive of sharing the burden of raising the future generation leads to public spending that supports families with children (van de Kaa 1987).

The class theory assumes a political environment based on the dominance of class interests within the society and economy (Goldthorpe 1984). In many European nations, democratic corporatism organizes labor and capital into national, monopolistic peak associations that partici-

pate in state-sponsored, societal-level negotiations.<sup>8</sup> By officially recognizing, representing, and mediating between classes, corporatism both structures and strengthens the class organization of society and facilitates class compromise over national social policy. Class becomes the dominant identification for individuals within society and the primary source of political mobilization. In addition, the presence of a strong leftist party, a condition that fosters the emergence of corporatist bargaining (Wilensky 1981; Western 1991), promotes solidarity within classes and across ages. The affinity between leftist rule and corporatism defines an institutional context in which class power rather than population aging shapes age-based public policies.

The corporatist structures and strong class-based political parties that typify Scandinavian nations and Austria stem from several sources. Late industrial development allowed diverse labor and capital interests to be more rationally centralized (Stephens 1979). The small population size and limited natural resources of some European nations created export dependence, which made all groups vulnerable to worldwide business fluctuations and thus forced them to organize in order to respond cohesively (Katzenstein 1985). And the existence of constitutionally mandated consensus or power-sharing governments promoted the political compromise necessary for corporatism (Lijphart and Crepaz 1991). It is important to note that corporatist structures, with few exceptions, have been stable institutional features of nations during most of the post-World War II period.

### The Importance of Context

Distinguishing the institutional context of nations allows us to view the demographic and class theories as complementary rather than competing. One theory sees population change as the source of policy change in benefits for children and the elderly; the other sees electoral success of class-based political parties as central to support of programs for children and the elderly. One theory predicts divergence in support for the young and old with population aging; the other predicts convergence with cumulative leftist party rule. The theories also differ in the assumptions they make about the nature of the institutional environment in which demographic and political change occurs. Each posits that the predicted effects of age structure depend on the way interests are organized and

<sup>8</sup> This definition of corporatism follows from the groundbreaking work of Schmitter (1979). Although debate on the nature and benefits of corporatism has occurred since then, the basic focus on centralization of class interests in state negotiation remains. See Williamson (1989) for a detailed review of the literature.

expressed politically. By linking the posited demographic forces to the class-based political structures, one can view the effect of population aging on support for children and the aged as contingent on the institutional and political context of nations.

Pluralism and corporatism, seen here as opposite ends of a dimension reflecting the centralization of class interests, represent key contextual or institutional characteristics (Schmitter 1979; Goldthorpe 1984).<sup>9</sup> The importance of the relative sizes of the age groups tends to expand in pluralist political contexts without encompassing class-based groups and strong class-based political parties. Nations with fragmented class organization, a weak labor movement, and a decentralized political system tend to develop diverse, numerous, and specialized interests. Mobilization along nonclass lines, then, makes spending particularly responsive to the resources—including size—of age groups. Combined with changing cohort sizes, political competition leads to age inequality in spending: the growing affluence of a large and politically active aged population coexists with lower public benefits and higher poverty for the young. Here aging of the population results less in a collective effort to rectify or prevent inequities than in competition among a variety of groups for scarce public resources.

Conversely, corporatist contexts tend to moderate the effects of population aging on the public support of children relative to the elderly just as more pluralist systems tend to exacerbate the effects. In nations with centralized classes, national bargaining between representatives of unions and employer associations, and powerful leftist parties, spending on children and the aged reflects ideologies and policies oriented toward solidarity, equalization, and harmonization of conflicting interests. Policies respond to the aging of the population with expanded public benefits for the young as well as the old. The goals of class and generational equality make child-rearing policies part of a collective effort to support families. Programs for children and the elderly alike tend to grow (or not grow)

<sup>9</sup> A variety of terms describe the groups of nations I have designated as pluralist and corporatist. To distinguish corporatism in European democracies from authoritarian or fascist variants of state control, scholars use such terms as neocorporatism, societal corporatism, or democratic corporatism. Because the delimited sample of this study excludes the nondemocratic forms of corporatism, I refer simply to corporatism throughout. Otherwise, some refer to noncorporatist nations as liberal when focusing on policy strategies (Esping-Andersen 1990), or dualist when focusing on employment and labor market conditions (Goldthorpe 1984). Neither term captures the centrality of the organization of interests as well as *pluralist* does. I use the term *pluralism* as Schmitter (1979) did in his original formulation to represent the opposite extreme of corporatist organization. Yet pluralism can also take on several meanings. As all the nations under study allow for the democratic expression of interests, they may be termed *pluralist*. If helpful, one can read pluralism as *noncorporatism*.

together, depending on the relative power of class-based parties in corporatist countries. Class-dominated politics thus reduce age inequality of benefits as conflict across classes transcends age-group competition.

These arguments assume that the meaning of age as a political construct depends on the societal context in general and the institutional context for class consciousness in particular. As Heclo (1988) argues, citizens in noncorporatist contexts tend to view age cross-sectionally or statically, while at the same time they view age groups as bounded, stable, and self-interested. Citizens in corporatist contexts tend to view age dynamically and class statically. In corporatist contexts, age groups see themselves as connected intimately to other age groups through the flow of time and as having common interests within classes. The importance of demographically driven politics and policies depends on an overarching class-based framework that inhibits the emergence of age as a basis for group political competition (Heclo 1988).<sup>10</sup>

### Hypotheses

This study tests three hypotheses. First, the greater the percentage of aged persons in the population, the higher spending is for pensions and the aged relative to spending for family allowances and children. Second, the stronger the structures for corporatist bargaining and the greater the strength of the working-class and leftist parties, the higher spending is for family allowances and children relative to spending for pensions and the elderly. Although class and demographic explanations are often seen as competing, a third hypothesis attempts to combine them: the influence of age structure on relative spending for children and the aged declines with corporatism and leftist party strength and increases with pluralism and the absence of a strong leftist party. This interaction hypothesis thus posits joint influences of dynamic forces of population aging with class-based partisan party rule and stable institutional features of interest organization in high-income democracies.

I can restate the hypotheses in terms of the degree of age inequality or bias in spending. Given the change toward population aging and the concern of overspending on the aged relative to children, I arbitrarily

<sup>10</sup> Ramirez's (1989) discussion of the social construction of childhood makes points similar to these arguments. He distinguishes between the emphasis on civil and individual rights in the treatment of children in liberal nations and the emphasis on group social rights in the treatment of children in corporatist nations. Legal rights of individuals, freedom from barriers, and judicial solutions characterize liberal nations; group rights to public benefits, social protection, and legislative solutions characterize corporatist nations. Corporatist nations thus link children as a group to societal welfare and encourage support for all age groups in the face of population aging.

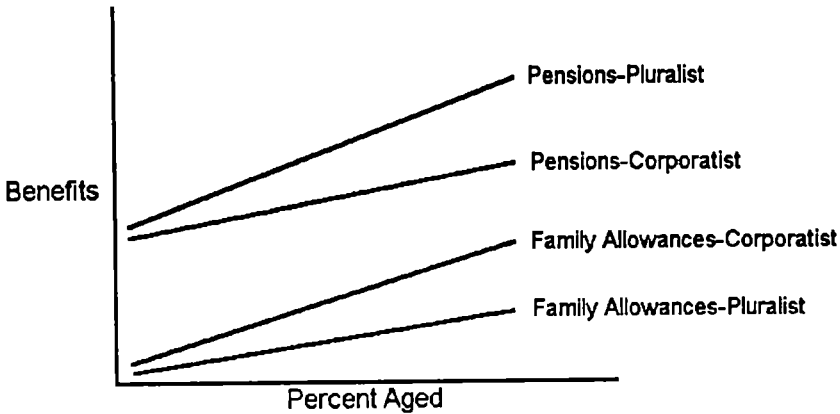


FIG. 1.—Relationships of benefits for pensions and family allowances to %AGED for corporatist and pluralist nations.

define age inequality or bias as high spending for the elderly relative to children. With inequality so defined, the first hypothesis suggests that population aging promotes age inequality or bias in spending. The second hypothesis suggests that corporatism and left party rule reduce age inequality in spending. The third hypothesis suggests that population aging promotes age inequality in spending in noncorporatist or pluralist political contexts, but reduces it in corporatist contexts.

Figure 1 depicts the predictions of the interaction hypothesis. To simplify, the figure distinguishes nations with corporatist structures and strong class-based parties, such as Sweden, Norway, and Austria, from nations with less centralized interest groups, such as the United States, Great Britain, and Canada. For corporatist nations, the effect of population aging on pensions (i.e., the slope) differs little from the effect on family allowances (even if the *level* of support for pensions is higher). The pattern maintains relative benefits levels, moderates age inequality or bias, and promotes solidarity across generations. The integration of interests into encompassing class groups counters the direct effects of age groups on self-interested spending. For pluralist nations, the effect of population aging on pensions greatly exceeds the effect on family allowances. The pattern implies divergence in spending, heightened inequality, and competition across generations. Benefits in these nations correspond more closely to group size.

The explicit comparison of spending for the aged and children does not entail a causal relation between the two.<sup>11</sup> As for all programs, increased

<sup>11</sup> The measurement technique used in the analysis is designed specifically for situations in which no such causal ordering exists.



spending on children or the elderly may require reductions in other programs. Yet, one can examine the differential impact of societal conditions on spending for the elderly and for children without assuming spending for one group comes directly from appropriations for the other. Rather than to assume direct competition, the strategy employed in the hypothesis testing takes the link between spending for the two groups as itself varying across nations and time. The appropriate question then shifts: To what extent do political and demographic conditions lead spending for the two groups to covary inversely?

## METHODS

### Sample and Data

For several reasons, this study focuses on the advanced industrial or capitalist democracies. First, these nations all have mature welfare systems that transfer a substantial proportion of national product to the young and old. Few developing nations devote such resources to either the young or the old, so age inequality in public support is of little relevance to them. Second, the advanced nations have all enjoyed political democracy at least since shortly after World War II. The hypotheses presume a democratic political environment in which age and class groups can influence policies through various forms of political activity. Third, these nations have experienced population aging as a result of low fertility—precisely the demographic conditions presumed to exist by the theories discussed in the previous sections. Although substantial demographic variation exists among the sample countries, their circumstances still differ from developing countries where younger cohorts dominate the age structure. Fourth, these nations have industrial labor forces sufficiently large to make labor unions a potent political force. The varied realization of the potential of large numbers of workers to centralize and become politically powerful provides variation in the political context across the nations.

Eighteen advanced industrial or capitalist democracies with populations over one million meet these conditions. Along with the Western European nations, the sample includes Canada, the United States, Australia, New Zealand, and Japan. It excludes Eastern European nations or newly democratic nations (Spain, Portugal, and Greece) that do not meet conditions of political democracy throughout most of the postwar period. The Eastern European nations require separate study also for the reason that state subsidization for housing, food, and energy has in the past made public transfers for old age and childhood qualitatively different from those in capitalist nations.

A cross section of 18 nations proves insufficient for a thorough analysis of all the causal forces specified by the theory. Moreover, cross sections ignore equally valuable time-series or longitudinal variation. Therefore, data on each of the nations over the time span between 1959 and 1986 (the earliest and most recently available years) were gathered. Because the high baby-boom fertility did not subside and population aging did not reemerge until the 1960s, earlier time periods seem less appropriate for the study of declining support of children under conditions of population aging. The mid-1980s mark an appropriate ending point for this study because the movement toward European integration during the late 1980s and early 1990s has reduced the importance of intranation corporatism.<sup>12</sup>

Despite the existence of missing data for some years, countries, and variables, the potential sample size increases dramatically (up to 504 with 18 nations and 28 time points) with the use of both cross-sectional and time-series data. In addition to allowing for detailed multivariate analysis, the pooled data make it possible to concentrate primarily on time-series models, primarily on cross-sectional models or on both combined. The analysis can select individual nations or individual time periods to test for interaction or can delete them one at a time to gauge the influence of outliers.

Pooling data creates the risk of an overly simplified analysis that fails to distinguish varying time and cross-sectional effects, ignores outlying nations or years, and does not make appropriate adjustments for autocorrelation, heteroscedasticity, and unmeasured heterogeneity. Yet, with appropriate care to model specification and robustness, the pooled approach offers much flexibility. By relaxing the assumption of additivity, the models may capture diversity in effects across nations and periods. Rather than focusing on structural relationships for the typical or most influential nations, the interaction specification can, within the confines of the pooled model, account for the relationships in atypical or outlying nations. The pooled models begin simply but add complexity incrementally to better reflect nation-specific and time-specific processes.

### Dependent Variables

Obtaining information on public programs aimed primarily at children or the elderly raises some conceptual difficulties in trying to connect programs to age groups. For example, spending for medical care may in principle benefit persons at all ages, but it may disproportionately go to the elderly because of their special needs; unemployment benefits may

<sup>12</sup> As yet, no multinational system of corporatism has emerged (Streek and Schmitter 1991). Because of changes in the context of corporatism, however, future research will need to consider the impact of European integration.

go primarily to younger workers with children who most risk layoffs or short-term job loss. Since published figures rarely separate the distribution of such program benefits by different age groups, this study focuses on programs explicitly based on age criteria. The two major age-based programs are pensions and family allowances.

The International Labour Organization (ILO) in *The Cost of Social Security* has published figures on family allowance and pension expenditures dating back to 1959. The figures generally exclude benefits paid to those qualifying by virtue of low income or need (which the ILO properly defines as social assistance). A crude but useful measure divides total expenditures for family allowances by the gross domestic product (GDP) per capita and then divides that figure by number of children under age 15. This provides a measure of the average benefit as a percentage of the standard of living—it adjusts for both age structure and economic levels. Similarly, standardizing pension spending by the size of the aged population (here defined as those 65 years old and older) and the size of the national product produces a measure analogous to that of family allowances.

The choice of family allowances for comparative study may need explanation in view of the program's absence in the United States. Family allowances are only one of the ways in which nations may publicly support the rearing of children. Others include health and education provisions, paid parental leaves, tax allowances and credits, public assistance, subsidized housing, and child care (Ruggie 1984; McIntosh 1983; Wilensky 1990). In contrast to tax allowances or credits, family allowances provide regular cash payments at frequent (monthly or weekly) intervals to families with children, in most countries without regard to parental income or employment status (Kahn and Kamerman 1983; Social Security Administration 1991). Governments almost always make the payments directly to the primary caregiver, usually the mother. Tax allowances (exemptions or deductions) for child rearing disproportionately benefit those in higher tax brackets, are more likely to go to men than to women, and do little for poor children and their families (Ellingson 1980). For these reasons, several countries moved in the 1970s to replace tax concessions for families with more generous family allowances (Oxley 1987). Although the analysis later considers the biases inherent in this choice, it focuses primarily on the programs based on cash benefits available to parents at all income levels.<sup>13</sup>

<sup>13</sup> In addition, educational expenditures benefit children (even though educational workers and bureaucracies benefit as well). Typically, researchers treat educational expenditures as separate from transfer spending for children. One program provides direct cash benefits, while the other provides a service that may benefit advantaged

To measure age inequality in spending, it is not possible to determine *a priori* how much spending government should devote to children or the elderly. Because all nations tend to rely more on the family for the support of children than for the support of the elderly, equality in public per capita expenditures for each group represents an unrealistic criterion, as may any other single, absolute standard. Without an absolute standard, spending for the elderly as a ratio to spending for children lacks intuitive meaning. Instead, age inequality can be taken as relative to the normative relationship between the two types of spending for the countries and years under study. So measured, a nation's spending for the elderly would be, in standard deviation units, higher or lower than the amount expected given the nation's spending on children and the general relationship across all nations between spending on children and the elderly. Such an approach controls for the general level of spending of a country when comparing the relative levels of spending for children and the aged.

Accordingly, I employ a residualization method adapted from Preston (1976). Orthogonal regression, which treats spending for children and the elderly symmetrically and does not require the specification of a dependent variable, estimates a linear relationship between the family allowance and pension indexes described above. Given a linear relationship, the difference between the actual spending for the elderly and that expected from the level of spending for children represents age inequality in spending, arbitrarily coded so that a high score indicates bias in favor of spending for the elderly. The regression line thus serves as an empirically determined standard of normal pension spending relative to family allowance spending. Deviations from the regression line indicate the position of nations and time points relative to this standard. While ratio measures of differential spending for children and the elderly can give different rankings of nations depending on the prevailing level of overall spending and the size of the component chosen as the denominator in the ratio, the symmetric residual measure does not depend on the choice of which spending to use as the standard.<sup>14</sup>

---

groups more than disadvantaged groups. Merging these two types of programs thus presents problems, especially since expenditures do not separate the contribution of educational expenditures to children from the contribution to public employees. Moreover, the diverse systems of education across the nations make direct comparison of expenditures problematic. Reporting agencies unfortunately fail to separate other programs relevant to families and with some pronatalist motivation, such as maternity leave and grants for childbirth, from more general health care social insurance expenditures. Likely, such benefits are highest where family allowances are high.

<sup>14</sup> The problems of ratio measures appear for nations that spend zero or near zero for one of the programs. The ratio does not exist when zero spending defines the denomi-

The orthogonal regression slope equals the geometric mean of the slopes for spending on family allowances and spending on pensions regressed on each other and results from the minimization of both the vertical and horizontal deviations of cases from the regression line. More simply, however, one can calculate the orthogonal equation directly from means and standard deviations of the family allowance and pension spending indexes. By arbitrarily designating the pension spending index as dependent, the predicted value  $P^*$  is a function of the standard deviations ( $\sigma_p$  and  $\sigma_f$ ) and means ( $\mu_p$  and  $\mu_f$ ) of spending:

$$P^* = (\sigma_p/\sigma_f)(F - \mu_f) + \mu_p.$$

Substituting the means and standard deviations from our data gives the equation

$$P^* = 20.7 + 4.72(F).$$

According to the equation, pension spending per capita averages about 21% of the standard of living for a nation-year with family allowance spending of zero. For a one-unit increase in the family allowance index, the pension index increases on average by 4.72. Age inequality equals the difference between the observed and the predicted pension spending. Positive values indicate higher than expected spending for the elderly—that is, age inequality in spending that favors the elderly—and negative values indicate lower than expected spending. Further, I standardize these values so that scores can be interpreted in standard units.

### Independent Variables

The independent variables of most theoretical interest include percent aged, partisan party rule, and corporatism. The variable %AGED divides the number of persons 65 years old and older (times 100) by the total population. *Party rule*, based on the classification of parties into leftist, rightist, and other parties, sums government control for each year since 1949, with parties in coalitions given a score in proportion to their representation in the legislature. Although measuring party rule for the few years preceding spending would identify the short-term impact, cu-

---

nator; it tends toward infinity as spending in the denominator approaches zero. The same spending used in the numerator instead of the denominator can give quite different results—a problem that occurs when no theoretical basis exists to choose one type of spending as the appropriate denominator. The symmetric measure avoids this problem altogether. The residual measures have a perfect inverse correlation when reversing the positions of the two types of measures in orthogonal regression.

mulating the years of rule during the postwar period up to the year of measurement captures the special impact on spending of continuous rule by any particular party.<sup>15</sup>

Any study of welfare spending must also include a variety of economic control variables. Published sources present yearly time series for the unemployment rate (Organization for Economic Cooperation and Development 1988), the consumer price index (World Bank 1988), and GDP in real U.S. dollars using the purchasing parity ratios of Summers and Heston (1987). I treat all three variables as level rather than as change scores.

The traditional pronatalist ideology of the Catholic Church suggests the need to control for the percentage of the population that is Catholic. Although high-income Catholic nations no longer invariably have high fertility, they do provide high levels of government support for children (Pampel and Adams 1992). Percentage Catholic changes little over time within nations but varies sharply across nations. By experimenting with different groupings, I discovered that a single dummy variable that distinguished nations with populations of 85% or more Catholic (%CATHOLIC) proved adequate. Based on figures from Barrett (1982), Austria, Belgium, France, Ireland, and Italy receive a code of "1." The other countries, none of which is over 50% Catholic, equal "0" on the dummy variable. As a check on this measure I also consider years of cumulative Christian Democratic rule, measured equivalently to the party variables discussed above.

<sup>15</sup> The causal model takes policy as a consequence of age structure and partisan party rule. The justification for the assumption of exogeneity is in part theoretical. The immediate or short-term impact of policies on age structure and electoral success would appear small relative to those in the opposite direction. If, for instance, family allowances affect fertility—and the evidence suggests a negligible effect in Western nations (Ekert 1986) and a larger effect in Eastern European nations (Buttner and Lutz 1990)—the immediate impact on %AGED would seem quite small. The %AGED changes substantially only after years of reduced fertility, and even then the exogenous change in migration and mortality could attenuate the long-term effect on fertility. In contrast, %AGED has an immediate impact on spending policies. Similarly, spending has a diffuse impact on electoral success. In some cases, higher spending serves as a means to gain popular support, but in other cases it creates opposition to the higher taxes required. As components of electoral success, economic performance, ideological shifts, candidate quality, and innumerable other forces are likely to swamp the importance of spending on children and the aged. Moreover, spending cannot directly affect cumulative partisan party rule in previous years and decades. The more immediate impact comes from a party's power in implementing its program. Properly stated, then, the modest changes in fertility and government popularity resulting from family allowance and pension spending operate primarily in the long term. These changes bias only slightly the short-term relationship attributed to the effect of population aging and partisan party power.

The measurement of corporatism requires a different approach. In contrast to the dynamic variables above, which statistics-gathering agencies update yearly, corporatism reflects a relatively stable, enduring national characteristic not amenable to simple reporting and presentation. Indeed, measures must come from scholars' and experts' judgments about information culled from the relevant literature rather than from standardized sources.

Similar but not identical measures of corporatism appear in Bruno and Sachs (1985), Schmidt (1982), Schmitter (1981), Lehmbruch (1984), and Wilensky (1976). Together, the measures define an underlying dimension: an exploratory factor analysis demonstrates that they all load on a single factor (Pampel, Williamson, and Stryker 1990).<sup>16</sup> A scale constructed from the factor scores defines the position of each nation relative to the others.<sup>17</sup> The Scandinavian and the small Central European nations score highest and the English-speaking nations lowest.<sup>18</sup> The scale provides a single variable that is stable over time and represents the institutionalized features of national economies and politics relevant to the organization of interests and social policy outcomes.

Union density or the number of union members as a percentage of the nonagricultural labor force relates to both left party rule and corporatism. The centralized organization of union members and the election of leftist leaders represent more proximate determinants of spending than union

<sup>16</sup> The results of a principal components analysis show the existence of a single significant dimension on which each of the five measures loads strongly. The factor loadings are .930 (Bruno and Sachs 1985), .879 (Schmitter 1981), .860 (Lehmbruch 1984), .778 (Schmidt 1982), and .628 (Wilensky 1976). The loadings on the latent factor eliminate idiosyncratic coding by weighting each measure according to its contribution to the shared underlying dimension. Another measure constructed by Cameron (1984) relates closely to corporatism but focuses only on union centralization. Because union centralization and centralization of employer associations typically emerge in a kind of symbiotic relationship, Cameron's scale correlates closely with the broader scales of corporatism. Nonetheless, the slightly different conceptualization leads me not to include it in the scale. A difference between measures of union centralization and corporatism concerns the treatment of the nations classified by Lehmbruch (1984) as concertation without labor. By coding these nations between low corporatist nations and pluralist nations, Lehmbruch's scale loads highly in the factor analysis and corresponds to the judgments of other experts. Without explicit attention to the centralization of business groups, scales of union centralization are not included in the combined scale.

<sup>17</sup> The scale correlates .93 with a corporatism scale developed by Lijphart and Crepaz (1991) from 12 expert ratings.

<sup>18</sup> The factor scores ranging from the most to least corporatist are as follows: Austria (1.56), Norway (1.55), Sweden (1.42), Netherlands (1.14), Denmark (.67), Finland (.50), West Germany (.39), Belgium (.38), Switzerland (.11), Japan (-.12), Ireland (-.51), New Zealand (-.74), Australia (-.85), Italy (-.85), France (-.94), United Kingdom (-.94), United States (-1.30), Canada (-1.31).

density. Yet, I also check for the additive and interactive influence of union density using figures gathered from national yearbooks.

### Model Estimation

Typical analyses take welfare spending and entitlements as linear, additive functions of demographic, political, and economic variables. Including time-series data with the more common cross-sectional data warrants adjustments for serial correlation, heteroscedasticity, cross-sectional correlation of residuals, and between-unit heterogeneity. However, the additive models reflect the limitations of the underlying theory: both the theory and models assume effects identical across all nations and time periods. My theoretical arguments suggest precisely the opposite—that the policy response to population change varies with the institutional context of interest organization. Additive models that have characterized the cross-national welfare state literature for several decades need to incorporate multiplicative interaction terms that capture the hypothesized joint influences.

One response to inappropriately assuming additivity rejects pooling altogether in favor of multiple country-specific models. If tests of significance show differences in the models across nations, one might estimate and compare separate models for each nation. A compromise strategy between the simplicity of additive models and the detail of 18 single-nation models incorporates national differences in effects through interaction terms. Such nonadditive models attempt to add complexity incrementally by systematically accounting for a subset of theoretically specified national differences in processes.

The estimation procedure can include the autoregressive transformations and nation-specific weighting appropriate for pooled cross-sectional time-series data. Use of time-series and cross-sectional data creates problems of serial correlation and heteroscedasticity of the errors and may make ordinary least squares estimates unbiased but inefficient without a lagged dependent variable (and biased and inefficient in the presence of a lagged dependent variable). Accordingly, the estimates come from a version of generalized least squares (GLS) that assumes first-order autoregressive processes and error variances unique to each nation. The two-stage procedure uses OLS residuals to estimate the error parameters; it then uses the GLS matrix to weight nations in inverse proportion to their error variance and to subtract out overtime redundancy in the variables responsible for correlated errors (Kmenta 1986; Judge et al. 1988; White et al. 1990). In addition, the model may be seen as a system of 18 equations in which the residuals for each nation correlate with those of other nations even after the correction for serial correlation. Moreover, high



cross-national correlations may emerge among geographically contiguous or culturally similar nations. A form of seemingly unrelated regressions appropriate for pooled cross-section time-series data uses the cross-national correlation of residuals (after removing the serial correlation within nations) to adjust for the lack of independence across nations.

Estimation of unbiased pooled models often also requires control for between-nation heterogeneity in the form of fixed effects or varying intercepts (Stimson 1985; Hsiao 1986). In this case, to capture partially these time-invariant, nation-specific effects, the model includes corporatism, which is itself time invariant and nation specific. Instead of representing heterogeneity with a dummy variable for each nation, I rely as much as possible on the theoretically defined concepts. Still, if preliminary tests indicate that the contextual variables do not capture all the heterogeneity, the model can control for a subset of nation-specific dummy variables in order to help produce less biased estimates of autocorrelations, variances, and coefficients.

## RESULTS

### Variation in Age Bias in Spending

Nations vary greatly in the public expenditures they devote to children and to the elderly. The first two columns of table 1 present the mean for each nation, averaged across 1959–86, of pension spending as a percentage of GDP and family allowance spending as a percentage of GDP. Because pension spending nearly always exceeds family allowance spending, it shows more variability. Pension spending averaged across all nations is nearly five times larger than spending on family allowances; it varies from a high of 8.05% of GDP in the Netherlands to a low of 1.14% in Japan. Despite spending less on family allowances than on pensions, the nations exhibit substantial variability in family allowances. France spends 2.75% of its GDP on family allowances while Japan spends less than 0.1%. The United States has no family allowance program.

The pension and family allowance indexes (table 1, cols. 4–5), which control for the size of the aged and child populations, reflect much the same pattern as spending over GDP. Pension benefits per aged person average 43.2% of the per capita standard of living while family allowance benefits per child average only 4.75 percent. However, the position of nations on the pension index correlates .932 with pension spending over GDP, and the position of nations on the family allowance index correlates .910 with family allowance spending over GDP. With few exceptions, demographic controls do not greatly change the relative position of nations.

TABLE 1

## NATIONAL MEANS FOR SPENDING FOR CHILDREN AND THE AGED, 1959-86

NATION	SPENDING AS % OF GDP			SPENDING INDEX*		
	Pension	Family Allowance	Residual†	Pension	Family Allowance	Residual†
Australia.....	3.01	.740	-.308	33.4	2.69	-.004
Austria.....	7.71	2.11	-.247	54.4	9.72	-.561
Belgium.....	4.60	2.61	-1.74	34.0	11.9	-1.97
Canada.....	2.40	.971	-.736	27.8	3.50	-.436
Denmark.....	5.58	.858	.381	42.7	3.81	.184
Finland.....	4.96	.932	.108	48.1	3.84	.426
France.....	5.78	2.75	-1.51	43.6	11.6	-1.47
Germany.....	7.84	.693	1.26 <sub>c</sub>	58.2	3.53	.959
Ireland.....	3.61	.994	-.381	32.8	3.23	-.147
Italy.....	7.23	1.29	.456	61.7	5.51	.693
Japan.....	1.14	.033	-.162	13.0	.143	-.392
Netherlands.....	8.05	1.84	.142	75.0	7.40	.895
New Zealand.....	5.03	1.06	-.003	55.0	3.51	.816
Norway.....	5.91	.850	.494	43.5	3.67	.249
Sweden.....	6.99	1.26	.403	46.8	8.09	-.559
Switzerland.....	5.32	.047	1.14	42.8	.216	.972
United Kingdom....	4.17	.702	.098	30.8	3.26	-.244
United States.....	3.48	.000	.609	33.6	.000	.592
$\bar{x}$ .....	5.16	1.10	.000	43.2	4.75	.000
SD.....	2.69	.817	1.00	18.8	3.99	1.00

\* Pensions as a % of GDP are divided by %AGED; family allowances as a % of GDP are divided by percentage of the population 0-14 years old.

† This measures spending bias for the elderly; see text for details.

The more important question to ask is this: Does spending on one program relate to spending on the other? Across all nations and time points, the correlation between the pension and family allowance indexes equals .303. The correlation provides no evidence that high spending for the elderly depresses spending for children. To the contrary, nations with high levels of spending on one program also have high levels of spending on the other. The positive correlation may result from the tendency of generous welfare states to spend on *all* programs. Controlling for time-invariant national propensities in welfare spending would isolate the within-nation time-series correlation between spending on the two programs. Regressing the pension spending index on the family-allowance spending index when controlling for dummy variables for all the nations less one equalizes stable underlying differences in spending across nations and thereby highlights the degree to which time trends in spending for the two programs coincide. The standardized coefficient of .004 indicates no relation between the two programs with controls for cross-national heterogeneity in overall spending. Some nations exhibit a positive temporal relationship between the two programs while others exhibit a negative relationship. Across all nations, then, the trends do not correspond in either direction. In sum, a tendency exists for nations to spend much or little on both programs, but across time no relationship emerges that demonstrates that high levels of spending in one area decreases spending in the other.

The lack of a strong relationship between the pension and family allowance indexes means variation in the measure of age inequality in spending exceeds that for either of the two indexes separately. Columns 3 and 6 present the mean standardized residual scores for each nation (col. 6 controls for the size of population for both the young and the elderly). Germany and Switzerland most favor the elderly while Belgium and France most favor children. The United States, as expected, tends to favor the elderly in public spending. Note that one can interpret those values as standard scores with, say, Germany spending just under one standard deviation more on the elderly than expected from the level of family allowance spending, and Belgium spending just under two standard deviations less on the elderly than expected from the level of family allowance spending.

Table 2 presents the trends over time averaged across all countries for the same six measures (spending as a percentage of GDP does not control for the age-group size; the spending index does). Average pension spending rises steadily even when one controls for age structure; family allowance spending generally rises, with some stagnation during the late 1960s. However, since pension spending rises faster than family allowance spending, the residual measure of age inequality shows a clear trend in

TABLE 2

## TRENDS IN MEASURES OF SPENDING FOR CHILDREN AND THE AGED

MEASURES	MEAN SPENDING					
	1959	1965	1970	1975	1980	1986
Spending as % of GDP:						
Pension .....	2.88	3.51	4.17	5.60	6.76	7.91
Family allowance .....	1.07	1.09	1.07	1.15	1.18	1.07
Residual* .....	-.686	-.516	-.280	.082	.431	.907
$r^{\dagger}$ .....	.128	.355	.414	.406	.452	.355
Spending Index: $\ddagger$						
Pension .....	28.9	33.0	36.4	45.9	53.9	59.4
Family allowance .....	4.05	4.28	4.22	4.80	5.30	6.43
Residual* .....	-.506	-.396	-.195	.113	.373	.382
$r^{\dagger}$ .....	.139	.289	.331	.300	.313	.309

\* This measures spending bias for the elderly, see text for details.

$\dagger$  This indicates the correlation between pension and family allowance spending.

$\ddagger$  Pensions as a % of GDP are divided by %AGED; family allowances as a % of GDP are divided by percentage of population 0-14 years old.

favor of the elderly. Spending favored children up until 1970, but afterward, as indicated by the positive value of the residual measure, spending favored the elderly relative to children. The upward trend in the age inequality measure corresponds to growth in the size of %AGED. However, the similar aggregate trends may mask national diversity in the impact of population aging on age inequality in spending.

### Determinants of Age Inequality in Spending

An additive model shows that political and social structures determine age inequality in spending, but age structure does not. The first two columns of table 3 present GLS and modified fixed-effects GLS estimates. The model uses the dependent variable that controls for age structure, although the results differ little for the other measure of age inequality. As expected, left party rule reduces relative spending for the elderly; in contrast, right party rule increases relative spending for the elderly. Because pensions more often adjust automatically for inflation than family allowances, the consumer price index (CPI) raises age inequality in favor of the elderly. The high spending for children in primarily Catholic countries translates into a strong negative effect of the Catholicism dummy variable. Otherwise, the effect of %AGED stays near zero and the effect of corporatism disappears in the fixed-effects model with con-

TABLE 3  
UNSTANDARDIZED COEFFICIENTS FOR ADDITIVE AND INTERACTIVE MODELS OF AGE INEQUALITY IN PUBLIC SPENDING

INDEPENDENT VARIABLES	AGE INEQUALITY IN SPENDING					
	Additive		Corporatism		Left Party Rule	
	GLS	Fixed-Effects GLS	GLS	Fixed-Effects GLS	GLS	Fixed-Effects GLS
%AGED .....	-.036 (1.82)	-.020 (1.35)	-.041 (2.08)	-.026 (1.75)	.128 (7.11)	.120 (7.23)
Corporatism .....	.308 (3.89)	.096 (1.01)	1.20 (5.27)	1.01 (4.09)	.022 (0.24)	-.159 (1.66)
Left party rule .....	-.039 (5.32)	-.033 (4.78)	-.022 (2.55)	-.013 (1.64)	.263 (9.01)	.224 (7.67)
Right party rule .....	.051 (7.80)	.038 (6.98)	.052 (8.17)	.036 (6.89)	.030 (4.99)	.020 (3.66)
CPI .....	.002 (3.83)	.003 (10.6)	.002 (3.55)	.003 (9.62)	.004 (7.77)	.004 (12.4)
%CATHOLIC .....	-.981 (9.52)	-.849 (7.41)	-.968 (9.10)	-.788 (6.71)	-.931 (9.19)	-.915 (8.80)

Corporatism × %AGED.....		-.083 (4.23)	-.088 (4.22)		
Left party rule × %AGED.....				-.020 (10.9)	-.018 (9.17)
Constant.....	.526	.539	.326	.181	-1.32
R <sup>2</sup> OLS .....	.407	.409	.772	.487	.792
df.....	497	496	488	496	488
Selected countries:					
Australia.....		-1.20	-1.06		-1.05
Belgium.....		-1.41	-1.39		-1.52
Canada .....		-.99	-.63		-.79
France .....		-1.44	-1.62		-1.70
Germany .....		.30	.44		.54
Japan.....		-1.60	-1.48		-.67
Sweden .....		-.84	-.68		-.59
United Kingdom.....		-.62	-1.08		-1.04

NOTE.—Nos. in parentheses are *t*-ratios.

trols for the country dummy variables.<sup>19</sup> The demographic effects support the conclusion that population aging has no necessary impact on age inequality in spending. Population aging raises pension spending (Pampel and Williamson 1988, 1989), but does not necessarily reduce family allowance spending. Hence, near-zero effects emerge in the additive models of table 3.

The additive models may misrepresent the processes of age inequality in spending by assuming the demographic effects are constant across diverse contexts. The following equations in table 3 demonstrate the error of the additive assumption: the effects of %AGED vary with levels of the political variables. First, evidence of interaction comes in columns 3 and 4 from adding a multiplicative interaction term of corporatism times %AGED to the basic additive model. Second, evidence comes in columns 5 and 6 from adding a multiplicative interaction term of left party rule times %AGED to the basic additive model. All the interaction coefficients, in both the GLS and fixed-effects GLS estimates, turn out significant and in the expected direction (the relationship between corporatism and left party rule prevents including both their interactions with %AGED in the same equation without substantially reducing the effects of each).<sup>20</sup>

Interpreting the interaction coefficients reveals that the direction of the effect of population aging on age inequality for the elderly reverses with

<sup>19</sup> Since corporatism prevents the use of all dummy variables, the model includes only those nations that deviated from the average net of the other variables or, in other words, proved significantly different from the intercept when added one at a time. Although less than ideal, this solution nonetheless reaffirms the results without any nation-specific controls. Only the effect of corporatism changes greatly. Another approach requires deleting corporatism, adding dummy variables for all nations less one, and allowing the dummy variables to subsume the effects of corporatism. This approach gives similar results to the equations presented in table 3 above.

<sup>20</sup> The tables report the OLS variance explained only as a rough guide to the adequacy of the models. Although available, formulas for explained variance specific to GLS estimation are not directly comparable across equations because different variables, OLS residuals, and GLS transformations change the total sum of squares. This creates special problems in determining the incremental explanatory power of interaction terms. Regardless of the measure of variance explained, the size and significance of the individual coefficients remain meaningful. Thus, the results show significant interactions for left party rule and corporatism with %AGED, but not for %CATHOLIC or right party rule. However, the variance-explained criterion suggests that the %AGED interactions do not capture all country differences in the processes of spending. The error sum of squares for 18 separate nations remains significantly lower than the error sum of squares for the pooled model with nation-specific effects of %AGED. No doubt the effects of other variables differ across nations as well. Lacking space to explore such differences either theoretically or empirically, I note here the need for further study of national differences in the determinants of spending for children and the elderly.

the levels of corporatism. Consider the fixed-effects GLS estimate of the coefficient of corporatism by %AGED interaction ( $-.088$ ). For a nation with a score near zero on corporatism (such as Switzerland), the interaction term drops out and the effect of %AGED is represented by the additive term of  $-.026$ , which does not differ significantly from zero. For a nation such as Sweden with a corporatism score of  $1.42$ , the effect of %AGED equals  $-.026 + (1.42 \times -.088)$ , or  $-.151$ . A one-unit increase in %AGED lowers the age bias for the elderly by  $.151$  of a standard deviation. While not huge, the effect establishes that population aging does not favor spending for the elderly. For a pluralist nation such as the United States, with a corporatism score of  $-1.30$ , the effect of %AGED equals  $.088$ . A one-unit increase in %AGED increases age inequality by just under one-tenth of a standard deviation. The positive relationship matches the experience of population aging in the United States, if not most other countries.

The interaction effects of %AGED with left party rule exceed those for corporatism. For nations with a zero on left party rule (i.e., those nations lacking a viable socialist or social democratic party, such as the United States), the interaction term drops out and the additive term represents the effect of %AGED on age bias. The coefficients show a positive effect of %AGED in the United States. For a nation with limited left party rule, say for 10 years, the effect of %AGED falls to  $-.060$  or near zero ( $.120 + [10 \times -.018]$ ). For a nation such as Sweden with 30 years of left party rule, the effect of %AGED equals  $-.420$ . Population aging lowers age inequality in spending for the elderly. Reaffirming previous results, these equations indicate the varied influence of demographic change on age inequality in spending across political contexts.

Tests for the additive and interactive influences of union density affirm the divergent effect of %AGED. With controls for corporatism and left party rule, union density has inconsistent effects—sometimes positive, sometimes negative—in large part because of its high correlation with left party rule. When substituted for left party rule, however, union density reinforces the previous results. Like long-lasting left party rule, high union density shifts the effect of %AGED on age bias in spending from positive to negative. Union density has smaller effects than those of left party rule, as left party rule causally intervenes between union density and spending. Union density likely affects age differences in spending indirectly through its influence on left party rule and the latter's influence on spending (Huber, Ragin, and Stephens 1993). Hence, the models rely on measures of left party rule and corporatism while recognizing the background role of union density.

As an alternative to %CATHOLIC, I substituted cumulative years of Christian Democratic rule into the equation. The interactive results



change little with this modification: both the corporatist and leftist interactions with %AGED remain significant and equally strong with a control for Christian democracy. More surprising, Christian democracy has a positive effect on age bias. Unlike %CATHOLIC, it raises spending for the elderly relative to children. Advocating social harmony and "belongingness" as an alternative to free-market liberalism of the right (Wilensky 1981), Christian democracy, like social democracy, might be expected to promote programs for children. However, differences between %CATHOLIC and Christian democracy account for the divergence in their effects. For instance, Germany's Christian Democratic parties coexist with a minority Catholic population and low spending for children. In contrast, France has lacked, other than limited coalition sharing in the Fourth Republic, a ruling Christian Democratic party despite a majority Catholic population and high spending for children. Thus, Christian democracy may favor general welfare spending (Huber et al. 1993), but it alone does not result in high spending for children relative to the elderly.

A more stringent test of the interaction examines *changes* in age inequality in spending by including a lagged dependent variable as a predictor. A lagged variable controls for the tendency of nations with high relative spending on one program to generate further growth in that program. In addition, by controlling for previous levels of spending and their determinants, the lagged model minimizes spuriousness due to common unmeasured causes of spending, political context, and population structure. Assessing the effect of independent variables on spending bias, while controlling for the previous year's spending bias, shifts the focus implicitly to changes in spending bias. The substantive benefits of lagged models are, however, balanced by some estimation problems. The presence of autocorrelation biases upward the effect of the lagged dependent variable and biases downward the effects of the other independent variables. The bias further makes estimation of and correction for autocorrelation problematic. These estimation problems warrant against reliance on lagged models. Nevertheless, if the interactions emerge even with a lagged dependent variable and the biases it introduces, it increases the confidence in the findings.

The first two columns of table 4, after adding a lagged dependent variable as a predictor and lagging the other independent variables one year, affirm the existence of the negative interaction terms. Both corporatism and left party rule lower the effect of %AGED on age inequality in spending. The effect holds despite remarkably strong associations between age inequality and age inequality lagged. Coefficients for other variables such as %CATHOLIC and CPI drop to insignificance with control for the lagged dependent variable, but the interaction remains.

These results give further credence to the demographic/political interaction hypothesis.

### Time Variation in Effects

Just as the effects of population structure on spending for children and the aged vary by nation, they may also vary by time period. Certainly the economic and political environment of public policy has changed during the post-World War II period. The vigorous economic growth and welfare state expansion up to the 1973 oil price shocks contrast with the economic stagnation and welfare state retrenchment that came afterward (Hicks and Misra 1993). Furthermore, the rate of population aging increased during the period of fertility decline in the 1970s and 1980s. Combined with problems of public program funding, population aging in more recent years has created especially difficult funding choices and highlighted the potential divergence in the public benefits of elderly and children. The more challenging economic and political circumstances may force more distinctive national responses to population aging in recent years compared to earlier years.

Table 4 includes separate models for two time periods roughly corresponding to the years of growth and retrenchment in the welfare state. The model allows the coefficients to differ across periods, but it constrains the estimates of the autocorrelation and dummy variable coefficients to be equal.<sup>21</sup> The *t*-ratios under the coefficients for the latter time period test the null hypothesis that the coefficient equals, within the bounds of statistical error, the first-period coefficient. Table 4 presents period coefficients for models including corporatism by %AGED and left party rule by %AGED.

The results for the first period show effects generally smaller than for the total time period. The corporatism interaction with %AGED falls to below significance ( $b = -.020$ ;  $t = -0.90$ ) and the left party rule interaction declines by a third (from  $-.018$  to  $-.005$ ). The change from period 1 to period 2 shows that the interactions in absolute value become larger (i.e., the *t*-coefficients for the change in regression coefficients are significant). The corporatism interaction rises from  $-.020$  to  $-.099$  and the left party rule interaction rises from  $-.005$  to  $-.019$ . Thus, the interactions constrained to be equal over the full 28-year time span average different effects in the early and later time periods. Since the interactions increase over time, they indicate that the differential response to

<sup>21</sup> The coefficients come from a single equation with multiplicative interaction terms of the period dummy variable times all the other independent variables.

TABLE 4

## UNSTANDARDIZED COEFFICIENTS FOR LAGGED MODELS AND TIME-DEPENDENT MODELS OF AGE INEQUALITY IN PUBLIC SPENDING

INDEPENDENT VARIABLE	AGE INEQUALITY IN SPENDING					
	Additive		Corporatism Interaction		Left Party Rule Interaction	
	OLS*	OLS†	1959-73	1974-86‡	1959-73	1974-86‡
%AGED .....	-.022 (2.56)	-.002 (.26)	-.008 (.35)	-.082 (3.92)	.053 (2.34)	.080 (1.62)
Corporatism .....	.187 (2.67)	-.003 (.15)	.342 (1.46)	1.43 (5.40)	.093 (1.54)	.222 (4.11)
Left party rule .....	.004 (1.09)	.057 (4.74)	-.029 (3.38)	-.025 (.53)	.026 (.60)	.219 (4.34)
Right party rule .....	.001 (.73)	.003 (1.57)	.033 (5.33)	.026 (2.78)	.024 (4.00)	.027 (.86)
CPI .....	-.0001 (.25)	.0001 (.50)	.013 (9.49)	.003 (7.29)	.014 (8.53)	.003 (6.42)
%CATHOLIC .....	.053 (1.54)	.026 (.77)	-.739 (8.22)	-.729 (.16)	-.775 (8.63)	-.777 (.03)
Corporatism × %AGED .....	-.016 (4.81)		-.020 (.90)	-.099 (4.20)		

Left party rule $\times$ %AGED.....		-.004 (4.92)		-.005 (1.54)	-.019 (4.51)
Lagged dependent variable .....	.998 (68.6)	.975 (64.4)			
Constant.....	.245	-.016	1.86	-1.01	.453
R <sup>2</sup> OLS .....	.944	.946	.816		.849
df.....	477	477	462		462
Selected countries:					
Australia.....			-1.01		-.97
Belgium.....			-1.62		-1.74
Canada .....			-.84		-.78
France .....			-1.52		-1.56
Germany .....			.20		.15
Japan.....			-1.49		-1.05
Sweden .....			-.73		-.61
United Kingdom.....			-.72		-.66

NOTE.—Nos. in parentheses are *t*-ratios.

\* Corporatism interaction.

† Left party rule interaction.

‡ *t*-ratios for this column test the null hypothesis of no difference between the coefficients for the first and second period.

demographic change in corporatist and pluralist nations, or in nations with and without strong leftist parties, becomes all the stronger when the problem of conflicting trends of population aging and funding deficits arise. That the temporal changes make theoretical sense reaffirms the interaction hypothesis, even if those same changes delimit the scope of the theoretical claims.

An empirically determined attempt to check the robustness of the time split used in table 4 replicates these conclusions. Following the strategy of Isaac and Griffin (1989), I estimate models for periods divided by each year from 1969 to 1976. Each model shows changes in the processes nearly identical to those using 1974 to divide the time periods. Dramatic shifts in the models do not occur over any single year, which suggests more incremental change during the early 1970s. Griffin and Isaac (1992) refer to slow and gradual but important temporal movement of coefficients as "parameter drift." Identifying the historical causes of the temporal shift in parameters requires further analysis. However, in the meantime, to build on previous work (Hicks and Misra 1993) and ease interpretation, I report results using a single 1974 break point.

### Expanding the Definition of Child Support

Do these results depend on equating child support with family allowance spending? Despite lacking a family allowance program, the United States does offer benefits to low income, one-parent families through Aid to Families with Dependent Children (AFDC) and to middle and high income families through tax exemptions for children. Along with a tax exemption, Canada offers a tax credit to parents, for which even those who pay no taxes can receive a refund. Family allowance spending in these two nations, which fall at the bottom of the corporatism scale, may underestimate the actual spending on children and may exaggerate the positive relationship found between population aging and age inequality in spending for noncorporatist nations. Despite the objections noted earlier to mixing public assistance spending and tax benefits with universally available family allowance spending, the alternative forms of support warrant some experimentation with different measures. In what follows, I provide evidence of the robustness of the results with respect to measurement of support for children.

First, replicating the models with the United States and Canada successively deleted discloses that the results do not appear unduly influenced by the inclusion of either nation. Without the United States, the model yields coefficients for the corporatism by %AGED and left party rule by %AGED interactions of, respectively,  $-.086$  ( $t = -3.59$ ) and  $-.018$  ( $t = -10.4$ ); without Canada, they yield coefficients for the cor-

poratism by %AGED and left rule by %AGED interactions of, respectively,  $-.063$  ( $t = -3.21$ ) and  $-.017$  ( $t = -9.55$ ). These coefficients match almost exactly those of  $-.088$  and  $-.018$  for the full sample. Deleting Japan, which provides little in the way of family allowance benefits, but does offer tax exemptions, also leaves the results unchanged (the coefficients are  $-.083$  and  $-.020$ ). Even if spending for children were substantially mismeasured in these nations, the low figures do not greatly affect the results.

Second, measures of spending for children may add aggregate AFDC spending and tax exemption income for the United States and tax exemption, tax credit, and family allowance income for Canada. The tax exemption figures come from Whittington, Alm, and Peters (1990) for the United States and Zhang, Quan, and Van Meerbergen (1991) for Canada. Each study presents the income exemption and the average marginal tax rates, which, when multiplied together, give the average income value of the deduction. Multiplying the average income value by the number of children ages 0–14 years gives the aggregate spending level.<sup>22</sup> The average tax credit in Canada need only be multiplied by the number of children as it does not depend on tax rates. Expenditures on AFDC for the United States come from *The Statistical Abstract of the United States*, (various years). Admittedly crude, these measures nonetheless should boost the position of the United States and Canada on spending for children and reduce observed age inequality in spending.

When added to family allowance spending, AFDC spending and tax exemption income raise the value of the child support measure over GDP from zero to 1.31 for the United States. This raises the ranking to near the mean. When including the new spending for the United States, the family allowance spending index rises from zero to 4.82, again near the mean. The age inequality measure for the pension and family allowance index changes from .592 to  $-.362$ , which suggests spending in favor of children and at the expense of the elderly. The measure no doubt overestimates the benefits for children since the elderly also gain from tax advantages and social assistance,<sup>23</sup> but it provides a check of the sensitivity of the previous results to the special forms of child funding in the United States. Values for Canada change less than for the United

<sup>22</sup> An ideal measure of tax expenditures would exclude those who pay no tax and would divide only by the number of children claimed as exemptions. The measure used here likely overestimates tax expenditures by not making such adjustments. Nonetheless, the biases work against the hypothesis by exaggerating the potential for changed results.

<sup>23</sup> If taxes were considered fully, a measure would also include benefits for the elderly in the form of exclusion of social security benefits, capital gains from sale of a home, and personal exemptions from taxation.

States since Canada has a substantial family allowance program in addition to tax benefits. When including tax benefits, spending on children as a percentage of GDP rises to 1.35 from .971, and the index controlling for the size of the child population rises to 4.72 from 3.50. Both the United States and Canada rank similarly near the center of the distribution by the revised measures. Comparing the United States and Canada to countries for which no adjustments have been made may seem incomplete, but few other countries offer substantial tax benefits relative to their family allowance spending (O'Higgins 1988).<sup>24</sup> Nonetheless, by minimizing the influence of mismeasurement in the two nations scoring lowest on corporatism, the alternative measure reduces spending differences across nations and thereby provides for a more stringent test of national differences in the effect of %AGED.

With spending revised for the United States and Canada, the replicated interaction models give near-identical results. The interactions of corporatism by %AGED and left party rule by %AGED stay negative and significant. In fact, the interaction coefficient for corporatism rises slightly in absolute value to  $-.093$  from  $-.088$  while the interaction coefficient for left party rule declines slightly in absolute value to  $-.016$  from  $-.018$ . While these adjustments cannot fully correct for measurement problems, they offer reassurance that the results reflect more than the unusual experience of the two least corporatist nations.

Third, I can check for the impact of the neglect of tax benefits for parents with children in another way. In *The Tax/Benefit Position of Production Workers, 1979–1983*, the Organization for Economic Cooperation and Development presents figures for 1979 on tax allowances and credits for children, cash transfers from governments for children, and average rates of income tax paid—all for a one-earner couple with two children and income equal to the average earnings of production workers in the manufacturing sector. These figures have several failings: they date only from the late 1970s and do not represent nonproduction workers. Still, they show that family allowance transfers as a percentage of wages has a correlation of .971 with family allowance transfers, tax credits, and tax allowance benefits combined as a percentage of wages. Nations low on family allowances tend to offer tax allowances for children, but including the tax allowances with family allowance benefits barely changes the rankings of the nations. The study of family allowances

<sup>24</sup> O'Higgins (1988) presents figures on the percentage of child benefits that come from family allowances, tax exemptions, and tax credits. For all but three nations—the United States, Canada, and Japan—family allowance benefits account for more than 90% of the total. Further, the benefits from taxes in the United States and Japan do not reach the levels of family allowance spending in other nations.

alone appears to provide a meaningful picture of family support for these nations.

## CONCLUSIONS

This study advances the thesis that the effects of population aging on public policy do not invariably favor the elderly over children. Demographic change that increases the size of the elderly population and reduces the size of the child population leads, under certain institutional conditions, to higher spending for children as well as the aged. The study attempts to identify the social and political conditions that shape the impact of population aging on age inequality in public spending for children and the elderly and to provide empirical evidence that the effects vary with the conditions as predicted.

Results for 18 advanced industrial democracies from 1959 to 1986 support the thesis in the following ways. First, construction of a measure of age inequality in public spending in which high scores show higher than expected benefits for the elderly demonstrates diversity across nations, time periods, and demographic conditions. The measure reveals that pension spending averaged across all nations and years tends to correlate positively rather than inversely with family allowance spending. Controlling for the tendency of nations that spend much on one program to spend much on others, the measure still shows substantial variation in relative spending for the elderly and children that deserves explanation.

Second, the effect of %AGED on age inequality in spending varies with the existence of structures for the organization and centralization of classes as dominant sources of interest representation, mobilization, and identification. The effect also depends on the presence of strong leftist parties, whose ideologies emphasize intraclass solidarity and universalism in public policy. While corporatism and left party rule relate too closely to identify the unique interactive influence of each, they both shape the effect of %AGED on age inequality in spending. At mean levels of corporatism and leftist rule, the effect of %AGED on age inequality in spending is nil; at low levels of corporatism and left party rule, the effect of %AGED becomes positive, favoring the elderly more than children; and at high levels of corporatism and left party rule, the effect becomes negative, favoring children more than the elderly.

Theoretical, methodological, and substantive implications follow from these results. Theoretically, the results call for a more integrative approach than what currently characterizes the field. Both demographic and class conditions influence age-based spending, but they work together as much as separately. Rather than competing, demographic and class-based theories complement one another: demographic theories



apply best to pluralist contexts where leftist parties are weak, and class theories apply best to corporatist contexts where leftist parties are strong. A rapprochement between the theoretical perspectives can benefit both traditions and improve our understanding of cross-national divergence in public policies.

Recent efforts present similarly integrative approaches to explaining broader forms of public spending. Hicks and Misra (1993) develop a political resources framework that incorporates political, class, and demographic theories. Moreover, as in this study, they demonstrate for total social welfare spending that corporatism facilitates the effectiveness of some political actors and parties. Huber et al. (1993) also consider how state institutions differentially process pressures from economic interests. Without formally modeling the interaction, they suggest constitutional structures, by setting the "rules of the game," shape the potential for groups to influence policy.

Methodologically, this article demonstrates the advantages of research strategies that combine analysis of quantitative variation among variables with attention to the context of individual nations. The national context of social processes can be lost in the procedures of abstract measurement inherent in variable-based comparative research. At the same time, a case-based strategy limited to the comparison of only a few nations faces difficulty in making general causal statements. Efforts to combine the advantages of both strategies, even if unable to fully maintain the strengths of each, may improve on either approach in isolation. This article, albeit tied most closely to the quantitative, variable-based approach, attempts to incorporate into the model some of the insights of the qualitative literature through the systematic comparison of processes across diverse national contexts.

Substantively, the results help make sense of the particular experience of the United States: population aging makes a difference for the relative well-being of the elderly and children, but the relationship is contingent on the liberal political environment. Spending for the elderly does not inevitably rise with population aging, but may do so more in some political environments than in others. Similarly, the combination of special demographic and political conditions in the United States makes it more likely that leaders and citizens define interests in terms of intergenerational equity. High spending for the elderly relative to children by itself does not create generational conflict. The existence of pluralist politics, as it promotes the influence of age groups and population aging on spending, likewise promotes perception of competition among interest groups in general and age-based groups in particular. The presence of corporatism and leftist parties encourages within-class solidarity across ages in spend-

ing policies and inhibits concern with intergenerational justice. The combination of population aging and interest-group pluralism provides the conditions for the issue to emerge in a country such as the United States.

Future research might employ several alternate approaches to demonstrating the divergent policy responses to population aging (or other societal changes). First, narrative histories of policy changes in pensions and family allowances may better describe the motives of policymakers and the positions of interest groups. Case studies of pension reform in the United States, where aged interest groups played an important role (Day 1990; Quadagno 1991), contrast with case studies of pensions in Sweden where pensioners' organizations were less crucial to major policy changes (Heclo 1974; Nielsen 1991). Other studies of family policy demonstrate the important role of values of social solidarity in Scandinavian societies, where the population has aged faster than in the United States. Heclo and Madsen (1987, p. 158) note the general principle behind policy: "Social policy in Sweden acquired a tone of solidaristic equality: everyone should participate in the common enterprise of social distribution, and no one should be allowed to push ahead and take precedence over others." Applied to children, this logic suggests working-class concerns with limiting economic stratification among those with many and those with few children (Wennemo 1992, p. 204), redistributing income by sharing the economic costs of raising children (McIntosh 1983; Kahn and Kameron 1983, p. 200), and protecting children from economic hardship (Thorsson 1968, p. 117; Liljestrom 1978, p. 26). In Austria and West Germany, other arguments for family allowances relied on rhetoric of intergenerational solidarity: policymakers recognized that additional costs of raising children, who in the future contribute retirement support to those without children, deserve to be at least partly mitigated by society (Pampel and Adams 1992, p. 528). Brief illustrations such as these from case studies fit with the statistical evidence and theoretical arguments in this article. Still, more explicit evaluation of the arguments through narrative histories of specific countries would further our understanding.

Second, in a more quantitative vein, future research may profitably attempt to measure the organizational resources and mobilization of the elderly. Such organizational measures are not now available. Instead, the strategy used here infers the parochial influence of the aged by allowing the size of the aged population to interact with the broader centralization of class-based interest groups. The strength of this approach comes from linking the larger institutional structure of classes and the population to specific policies for children and the elderly. Yet, actually measuring the mediating mobilization of aged interest groups

would help validate arguments underlying the statistical relationships. Like narrative evidence, quantitative measures of interest group power, though unavailable now, would help identify relevant mechanisms.

Third, an alternate quantitative strategy moves even further toward real-world complexity by estimating country-specific quantitative models. In so doing, the effects of all variables, not just %AGED, could vary across nations. A second stage analysis could then correlate nation-specific coefficients with national institutional characteristics as in Griffin et al. (1989). The lack of previous country-specific models and theoretical development in the area of policies for children relative to the aged makes such a strategy overwhelming for this initial study. At this stage, progressively introducing well-argued and clearly specified nation and time-specific interaction terms to the pooled additive models provides a more orderly and manageable strategy of capturing complexity in the policy processes. Similar efforts to specify theoretically and model statistically the variation in the effects of variables other than %AGED would further this strategy. Eventually, more sophisticated theories and models would help make coherent sense out of separate models for each nation. As this article only begins to introduce such complexity, further research can build and expand on this effort through a more inductive strategy of quantitative estimation and narrative case study.

## REFERENCES

- Adams, Paul. 1989. "Family Policy and Labor Migration in East and West Germany." *Social Service Review* 63:245-63.
- . 1990. "Children as Contributions in Kind: Social Security and Family Policy." *Social Work* 35:492-99.
- Bane, Mary Jo, and David T. Ellwood. 1989. "One Fifth of the Nation's Children: Why Are They Poor?" *Science* 245:1647-53.
- Barrett, David B., ed. 1982. *World Christian Encyclopedia*. Oxford: Oxford University Press.
- Bianchi, Suzanne M. 1990. "America's Children: Mixed Prospects." *Population Bulletin* 45:1-43.
- Bradshaw, Jonathon, and David Piachaud. 1980. *Child Support in the European Community*. London: Bedford Square.
- Bruno, Michael, and Jeffrey D. Sachs. 1985. *Economics of Worldwide Stagflation*. Cambridge, Mass.: Harvard University Press.
- Buttner, T., and W. Lutz. 1990. "Estimating Fertility Responses to Policy Measures in the German Democratic Republic." *Population and Development Review* 16: 539-55.
- Cameron, David R. 1978. "The Expansion of the Public Economy: A Comparative Analysis." *American Political Science Review* 72:1243-61.
- . 1984. "Social Democracy, Corporatism, Labor Quiescence, and the Representation of Economic Interests in Advanced Capitalist Society." Pp. 143-78 in *Order and Conflict in Contemporary Capitalism*, edited by John H. Goldthorpe. Oxford: Clarendon.

- Castles, Francis G. 1982. "The Impact of Parties on Public Expenditure." Pp. 21-96 in *The Impact of Parties: Politics and Policies in Democratic Capitalist States*, edited by Francis G. Castles. Beverly Hills, Calif.: Sage.
- Day, Christine L. 1990. *What Older Americans Think: Interest Groups and Aging Policy*. Princeton, N.J.: Princeton University Press.
- Duncan, Greg J., and Ken R. Smith. 1989. "The Rising Affluence of the Elderly: How Far, How Fair, and How Frail?" *Annual Review of Sociology* 15:261-89.
- Easterlin, Richard A. 1987. "The New Age Structure of Poverty in America: Permanent or Transient?" *Population and Development Review* 13:195-208.
- Eggebeen, David J., and Daniel T. Lichter. 1991. "Race, Family Structure, and Changing Poverty among American Children." *American Sociological Review* 56: 801-17.
- Ekert, Olivia. 1986. "Effets et limites des aides financières aux familles: Une expérience et un modèle." *Population* 41:327-48.
- Ellingson, Lynn. 1980. "Children's Allowances in the United Kingdom." *Social Security Bulletin* 43:20-24.
- Erikson, Robert, and Johan Fritzell. 1988. "The Effects of the Social Welfare System in Sweden on the Well-Being of Children and the Elderly." Pp. 309-30 in *The Vulnerable*, edited by John L. Palmer, Timothy Smeeding, and Barbara Boyle Torrey. Washington, D.C.: Urban Institute.
- Ermisch, John. 1989. "Demographic Change and Intergenerational Transfers in Industrialised Countries." Pp. 17-32 in *Workers versus Pensioners: Intergenerational Justice in an Aging World*, edited by Paul Johnson, Christoph Conrad, and David Thomson. Manchester: Manchester University Press.
- Esping-Andersen, Gøsta. 1985. "Power and Distributional Regimes." *Politics and Society* 14:222-55.
- . 1990. *The Three Worlds of Welfare Capitalism*. Princeton, N.J.: Princeton University Press.
- Esping-Andersen, Gøsta, Lee Rainwater, and Martin Rein. 1988. "Institutional and Political Factors Affecting the Well-Being of the Elderly." Pp. 333-50 in *The Vulnerable*, edited by John L. Palmer, Timothy Smeeding, and Barbara Boyle Torrey. Washington, D.C.: Urban Institute.
- Friedland, Roger, and Jimmy Sanders. 1986. "Private and Social Wage Expansion in the Advanced Market Economies." *Theory and Society* 15:193-222.
- Furniss, Norman. 1986. "The Welfare State between 'State' and 'Civil Society.'" Pp. 307-403 in *Futures for the Welfare State*, edited by Norman Furniss. Bloomington: Indiana University Press.
- Gilliand, Pierre. 1989. "Evolution of Family Policy in Light of Demographic Developments in West European Countries." *International Social Security Review* 42: 395-426.
- Goldthorpe, John H. 1984. "The End of Convergence: Corporatist and Dualist Tendencies in Modern Western Societies." Pp. 315-43 in *Order and Conflict in Contemporary Capitalism*, edited by John H. Goldthorpe. Oxford: Clarendon.
- Griffin, Larry J., and Larry W. Isaac. 1992. "Recursive Regression and the Historical Use of 'Time' in Time-Series Analysis of Historical Process." *Historical Methods* 25:166-79.
- Griffin, Larry J., Philip O'Connell, and Holly J. McCammon. 1989. "National Variation in the Context of Struggle: Postwar Class Conflict and Market Distribution in the Capitalist Democracies." *Canadian Review of Sociology and Anthropology* 26:37-68.
- Heclo, Hugh. 1974. *Modern Social Policies in Britain and Sweden: From Relief to Income Maintenance*. New Haven, Conn.: Yale University Press.
- . 1988. "Generational Politics." Pp. 381-411 in *The Vulnerable*, edited by

- John L. Palmer, Timothy Smeeding, and Barbara Boyle Torrey. Washington, D.C.: Urban Institute.
- Heclo, Hugh H., and Henrik Madsen. 1987. *Policy and Politics in Sweden: Principled Pragmatism*. Philadelphia: Temple University Press.
- Hicks, Alexander, and Joya Misra. 1993. "Political Resources and the Growth of Welfare in Affluent Capitalist Democracies, 1960–1982." *American Journal of Sociology* 99:668–710.
- Hicks, Alexander, and Duane Swank. 1992. "Politics, Institutions, and Welfare Spending in Industrialized Democracies, 1960–82." *American Political Science Review* 86:658–74.
- Hicks, Alexander, Duane Swank, and Martin Ambuhl. 1989. "Welfare Expansion Revisited: Policy Routines and Their Mediation by Party, Class, and Crisis, 1957–1982." *European Journal of Political Research* 17:401–30.
- Holzman, Robert. 1988. "Ageing and Social Security Costs." *European Journal of Population* 3:411–37.
- Hsiao, C. 1986. *Analysis of Panel Data*. New York: Cambridge University Press.
- Huber, Evelyn, Charles Ragin, and John D. Stephens. 1993. "Social Democracy, Christian Democracy, Constitutional Structure, and the Welfare State." *American Journal of Sociology* 99:711–49.
- Isaac, Larry W., and Larry J. Griffin. 1989. "Ahistoricism in Time-Series Analysis of Historical Processes: Critique, Redirection, and Illustrations from U.S. Labor History." *American Sociological Review* 54:873–91.
- Jencks, Christopher, and Barbara Boyle Torrey. 1988. "Beyond Income and Poverty: Trends in Social Welfare among Children and the Elderly since 1960." Pp. 229–73 in *The Vulnerable*, edited by John L. Palmer, Timothy Smeeding, and Barbara Boyle Torrey. Washington, D.C.: Urban Institute.
- Johnson, Paul, and J. Falkingham. 1988. "Intergenerational Transfers and Public Expenditures on the Elderly in Modern Britain." *Ageing and Society* 8:129–46.
- Judge, George G., William E. Griffiths, F. Carter Hill, and Tsoung-Chao Lee. 1988. *Introduction to the Theory and Practice of Econometrics*, 2d ed. New York: Wiley.
- Kahn, Alfred J., and Sheila B. Kamerman. 1983. *Income Transfers for Families and Children: An Eight-Country Study*. Philadelphia: Temple University Press.
- Kamerman, Sheila B., and Alfred J. Kahn, eds. 1978. *Family Policy: Government and Families in Fourteen Countries*. New York: Columbia University Press.
- . 1988. "Social Policy and Children in the United States and Europe." Pp. 351–80 in *The Vulnerable*, edited by John L. Palmer, Timothy Smeeding, and Barbara Boyle Torrey. Washington, D.C.: Urban Institute.
- Katzenstein, Peter. 1985. *Small States in World Markets: Industrial Policy in Europe*. Ithaca, N.Y.: Cornell University Press.
- Kingson, Eric R., Barbara A. Hirshorn, and John M. Cornman. 1986. *Ties That Bind: The Interdependence of Generations*. Washington, D.C.: Gerontological Association of America.
- Kmenta, Jan. 1986. *Elements of Econometrics*. New York: Macmillan.
- Korpi, Walter. 1983. *The Democratic Class Struggle*. London: Routledge & Kegan Paul.
- . 1989. "Power, Politics, and State Autonomy in the Development of Social Citizenship: Social Rights during Sickness in Eighteen OECD Countries since 1930." *American Sociological Review* 54:309–28.
- Lehmbruch, Gerhard. 1984. "Concertation and the Structure of Corporatist Networks." Pp. 60–80 in *Order and Conflict in Contemporary Capitalism*, edited by John H. Goldthorpe. Oxford: Clarendon.
- Levy, Frank. 1987. *Dollars and Dreams*. New York: Russell Sage.
- Lijphart, Arend, and Markus M. L. Crepaz. 1991. "Corporatism and Consensus

- Democracy in Eighteen Countries: Conceptual and Empirical Linkages." *British Journal of Political Science* 21:235-56.
- Liljestrom, Rita. 1978. "Sweden." Pp. 19-48 in *Family Policy: Government and Families in Fourteen Countries*, edited by Sheila B. Kamerman and Alfred J. Kahn. New York: Columbia University Press.
- McIntosh, C. Alison. 1983. *Population Policy in Western Europe*. Armonk, N.Y.: M. E. Sharpe.
- Myles, John. 1984. *Old Age in the Welfare State: The Political Economy of Public Pensions*. Boston: Little Brown.
- Myles, John, and Jill Quadagno, eds. 1991. *States, Labor Markets, and the Future of Old Age Policy*. Philadelphia: Temple University Press.
- Nielsen, Fritz von Nordheim. 1991. "The Politics of Aging in Scandinavian Countries." Pp. 127-74 in *States, Labor Markets, and the Future of Old Age Policy*, edited by John Myles and Jill Quadagno. Philadelphia: Temple University Press.
- O'Connor, Julia S., and Robert J. Brym. 1988. "Public Welfare Expenditure in OECD Countries: Towards a Reconciliation of Inconsistent Findings." *British Journal of Sociology* 29:47-68.
- O'Higgins, Michael. 1988. "The Allocation of Public Resources to Children and the Elderly in OECD Countries." Pp. 201-28 in *The Vulnerable*, edited by John L. Palmer, Timothy Smeeding, and Barbara Boyle Torrey. Washington, D.C.: Urban Institute.
- Organization for Economic Cooperation and Development (OECD). 1988. *Labor Force Statistics, 1966-1986*. Paris: OECD.
- Oxley, Carol. 1987. "Family Allowances for All? Provision of Universal Family Assistance in a Number of Countries." *Social Security Journal* (Winter): 1-112.
- Palme, Joakim. 1991. *Pension Rights in Welfare Capitalism*. Stockholm: Swedish Institute for Social Research, University of Stockholm.
- Pampel, Fred C., and Paul Adams. 1992. "The Effect of Demographic Change and Political Structure on Family Allowance Expenditures." *Social Service Review* 66:524-46.
- Pampel, Fred C., and John B. Williamson. 1985. "Age Structure, Politics, and Cross-National Patterns of Public Pension Expenditures." *American Sociological Review* 50:787-98.
- . 1988. "Welfare Spending in Advanced Industrial Democracies, 1950-1980." *American Journal of Sociology* 93:1424-52.
- . 1989. *Age, Class, Politics, and the Welfare State*. Cambridge: Cambridge University Press.
- Pampel, Fred C., John B. Williamson, and Robin Stryker. 1990. "Class Context and Pension Response to Demographic Structure in Advanced Industrial Democracies." *Social Problems* 37:535-50.
- Preston, Samuel H. 1976. *Mortality Patterns in National Populations*. New York: Academic Press.
- . 1984. "Children and the Elderly: Divergent Paths for America's Dependents." *Demography* 21:435-57.
- Preston, Samuel H., and Shigemi Kono. 1988. "Trends in Well-Being of Children and the Elderly in Japan." Pp. 275-308 in *The Vulnerable*, edited by John L. Palmer, Timothy Smeeding, and Barbara Boyle Torrey. Washington, D.C.: Urban Institute.
- Quadagno, Jill S. 1989. "Generational Equity and the Politics of the Welfare State." *Politics and Society* 17:353-76.
- . 1991. "Interest-Group Politics and the Future of U.S. Social Security." Pp. 36-58 in *States, Labor Markets, and the Future of Old Age Policy*, edited by John Myles and Jill Quadagno. Philadelphia: Temple University Press.

- Ragin, Charles C. 1987. *The Comparative Method: Moving beyond Qualitative and Quantitative Strategies*. Berkeley and Los Angeles: University of California Press.
- Ramirez, F. O. 1989. "Reconstituting Children: Extension of Personhood and Citizenship." Pp. 143–66 in *Age Structuring in Comparative Perspective*, edited by David I. Kertzer and K. Warner Schaie. Hillsdale, N.J.: Lawrence Erlbaum.
- Ruggie, Mary. 1984. *The State and Working Women: A Comparative Study of Britain and Sweden*. Princeton, N.J.: Princeton University Press.
- Schmidt, Manfred G. 1982. "The Role of Parties in Shaping Macroeconomic Policy." Pp. 97–116 in *The Impact of Parties: Politics and Policies in Democratic Capitalist States*, edited by Francis G. Castles. Beverly Hills, Calif.: Sage.
- Schmitter, Philippe C. 1979. "Still the Century of Corporatism?" Pp. 7–52 in *Trends toward Corporatist Intermediation*, edited by Philippe C. Schmitter and Gerhard Lehmbruch. London: Sage.
- . 1981. "Interest Intermediation and Regime Governability in Contemporary Western Europe and North America." Pp. 287–330 in *Organizing Interests in Western Europe: Pluralism, Corporatism, and the Transformation of Politics*, edited by Suzanne Berger. Cambridge: Cambridge University Press.
- Smeeding, Timothy, and Barbara Boyle Torrey. 1988. "Poor Children in Rich Countries." *Science* 242:873–77.
- Smeeding, Timothy, Barbara Boyle Torrey, and Martin Rein. 1988. "Patterns of Income and Poverty: The Economic Status of Children and the Elderly in Eight Countries." Pp. 89–119 in *The Vulnerable*, edited by John L. Palmer, Timothy Smeeding, and Barbara Boyle Torrey. Washington, D.C.: Urban Institute.
- Smolensky, E., S. Danziger, and P. Gottschalk. 1988. "The Declining Significance of Age in the United States: Trends in the Well-Being of Children and the Elderly since 1939." Pp. 29–54 in *The Vulnerable*, edited by John L. Palmer, Timothy Smeeding, and Barbara Boyle Torrey. Washington, D.C.: Urban Institute.
- Social Security Administration. 1991. *Social Security throughout the World*. Washington, D.C.: Government Printing Office.
- Stephens, John D. 1979. *The Transition from Capitalism to Socialism*. London: Macmillan.
- Stimson, James. 1985. "Regression in Time and Space: A Statistical Essay." *American Journal of Political Science* 29:914–47.
- Streek, Wolfgang, and Philippe C. Schmitter. 1991. "From National Corporatism to Transnational Pluralism: Organized Interests in the Single European Market." *Politics and Society* 19:133–64.
- Summers, Robert, and Alan Heston. 1987. "A New Set of International Comparisons of Real Product and Price Levels Estimates for 130 Countries, 1950–1985." *Review of Income and Wealth* 32:1–25.
- Thomson, David. 1989. "The Welfare State and Generation Conflict: Winners and Losers." Pp. 33–56 in *Workers versus Pensioners: Intergenerational Justice in an Aging World*, edited by Paul Johnson, Christoph Conrad, and David Thomson. Manchester: Manchester University Press.
- Thorsson, Inga. 1968. "Children's Allowances in Sweden." Pp. 115–20 in *Children's Allowances and the Economic Welfare of Children*, edited by Eveline Burns. New York: Citizen's Committee for Children of New York.
- van de Kaa, Dirk J. 1987. "Europe's Second Demographic Transition." *Population Bulletin* 42:1–57.
- Wennemo, Irene. 1992. "The Development of Family Policy: A Comparison of Family Benefits and Tax Reductions for Families in 18 OECD Countries." *Acta Sociologica* 35:201–17.
- Western, Bruce. 1991. "A Comparative Study of Corporatist Development." *American Sociological Review* 56:283–94.
- White, Kenneth J., S. Donna Wong, Diana Whistler, and Shirley A. Haun. 1990.

- SHAZAM Econometrics Computer Program: User's Reference Manual*, version 6.2. New York: McGraw-Hill.
- Whittington, Leslie A., James Alm, and H. Elizabeth Peters. 1990. "Fertility and the Personal Exemption: Implicit Pronatalist Policy in the United States." *American Economic Review* 80:545-56.
- Wilensky, Harold L. 1975. *The Welfare State and Equality*. Berkeley: University of California.
- . 1976. *The "New Corporatism," Centralization, and the Welfare State*. Beverly Hills, Calif.: Sage.
- . 1981. "Leftism, Catholicism, and Democratic Corporatism: The Role of Political Parties in Welfare State Development." Pp. 345-82 in *The Development of Welfare States in Europe and America*, edited by Peter Flora and A. J. Heidenheimer. New Brunswick, N.J.: Transaction Books.
- . 1990. "Common Problems, Divergent Policies: An 18-Nation Study of Family Policy." *Public Affairs Report* 31 (3): 1-3.
- Williamson, Peter. 1989. *Corporatism in Perspective: An Introductory Guide to Corporatist Theory*. London: Sage.
- World Bank. 1988. *World Tables*, 4th ed. Baltimore: Johns Hopkins University Press.
- Zhang, Junsen, Jason Quan, and Peter Van Meerbergen. 1991. "The Effect of Tax-Transfer Policies on Fertility in Canada, 1921-1988." Manuscript. University of Western Ontario, Department of Economics.
- Zill, Nicholas, and Carolyn C. Rogers. 1988. "Recent Trends in the Well-Being of Children in the United States and Their Implications for Public Policy." Pp. 31-116 in *The Changing American Family and Public Policy*, edited by Andrew J. Cherlin. Washington, D.C.: Urban Institute.



# School Desegregation, Interracial Exposure, and Antibusing Activity in Contemporary Urban America<sup>1</sup>

Susan Olzak and Suzanne Shanahan  
*Stanford University*

Elizabeth West  
*McGill University*

Prior research emphasized either resource mobilization or grievance explanations of antibusing activity. This article argues that both explanations imply that racial competition generated collective action against busing. It suggests that increases in interracial exposure in schools and neighborhoods trigger racial and ethnic conflict. This article examines these competition arguments using data on antibusing events, school desegregation, and interracial residential exposure in SMSAs from 1968 through 1990. The results suggest that the amount of school desegregation significantly raised rates of protests against busing. Furthermore, there is little evidence that the federal origin of court-ordered busing increased antibusing activity.

## INTRODUCTION

In the wake of the civil rights movement of the 1950s and 1960s and the race riots of the 1960s, the U.S. federal government implemented widespread integration programs aimed at desegregating schools and neighborhoods (National Advisory Commission on Civil Disorders 1968).

<sup>1</sup> An earlier version of this article was presented at the 1992 meeting of the American Sociological Association. Preparation of this article was supported by grants to the first author from the National Science Foundation (SES-9196229), the Rockefeller Foundation Population Sciences Program (RF 83043), and by a research fund provided by the department of humanities and sciences at Stanford University. Expert research assistance and suggestions were provided by Kelly Massey, Elizabeth McEneaney, and Francine Simon. We would like to extend our appreciation to Douglas Massey, who graciously sent us his data on residential segregation and social class. Finally, David Barron, Carol Conell, Michael Hannan, Doug McAdam, John Meyer, Maurice Pinar, and William Tobin offered useful criticisms and suggestions on previous drafts of this article. Direct all correspondence to Susan Olzak, Department of Sociology, Stanford University, Stanford, California 94305.

The centerpiece of these initiatives was the attempt by the federal government to desegregate public schools (James 1989; Kirp 1982; Kluger 1977). Busing programs sparked protest in major metropolitan regions such as Boston, New York, San Francisco, Baltimore, Louisville, and Chicago. Many of these protests became violent, exacerbating racial tensions between whites and blacks.<sup>2</sup>

Yet the implementation of busing programs did not always provoke violence and protest. In fact, most regions desegregated schools relatively peacefully. In this article we focus on two research questions related to these differences in response to integration: (1) What factors account for the differences in rates of urban antibusing protests during this period? (2) Were communities that were subject to federally mandated busing especially prone to antibusing protests, when compared to communities that did not have federally mandated plans?

Although there are many studies of protests against busing, none compares antibusing protest across many cities. These studies are informative and rich in detail.<sup>3</sup> Nonetheless, questions naturally arise about the validity of causal inferences (or policy recommendations) based on studies of cities that experienced antibusing protests without any comparisons with cities that had no antibusing activity.

Our research redresses this deficiency by analyzing the effects of school desegregation and interracial contact in residential settings on antibusing protests in all of the largest metropolitan areas for which data on segregation exist. In other words, our purpose here is not to explain any particular outbreak of violence. Rather, we attempt to explain the fact that while all regions were subject to school integration policies, protests occurred only in a few places. Our key argument holds that where patterns of racial segregation were breaking down (either forcibly or voluntarily), antibusing protests were most frequent. In particular, we propose that a shift toward more interracial contact in schools and neighborhoods sparked antibusing protests. To capture the peak period of enforcement

<sup>2</sup> In our article we focus on whites' resistance to busing. Following Schuman, Steeh, and Bobo (1987), we assume that at least some whites view busing as a threat to their individual opportunity and as a threat to neighborhood control of schools (see also Useem 1984). However, we do not mean to imply that all Americans (or even all whites) subscribe to this zero-sum view of education. Clearly, many whites support busing and many African-Americans oppose it (Sigelman and Welch 1991). We nevertheless think that it is important to examine whether the implementation of federally mandated busing programs contributed to higher rates of protests in those cities affected by federal plans. For evidence supporting this general argument, see Bobo (1983), Taylor (1986), Schuman et al. (1987), Orfield and Monfort (1988), and Schuman and Bobo (1988).

<sup>3</sup> For excellent case studies of the antibusing movement in Boston and other cities, see Useem (1980), Taylor (1986), and Formisano (1991).

and debate about busing plans, we analyze the period 1968–90 (James 1989).

This research is relevant to understanding the role of collective action in affecting public policy. For instance, some have argued that the anti-busing movement prompted policymakers and the courts to constrain integrationist policies (Taylor 1986; Rossell 1990). In making this point, scholars cite cases such as *Milliken v. Bradley*, in which the Supreme Court sharply restricted plans that combined city and suburban districts as a means to achieve racial integration (Orfield and Monfort 1988).<sup>4</sup> Since this ruling in 1974, no further decisions have been made to expand school desegregation in the North (Orfield and Monfort 1988). This sequence of events led many researchers to conclude that antibusing protests were effective in turning the climate of public opinion against busing, which in turn influenced the outcome of court cases (Taylor 1986). According to this logic, antibusing protest declined in response to its own success.

Yet the fact that the rate of antibusing protest *rose* in the period immediately after the *Milliken v. Bradley* ruling (see fig. 2 below) shows that even when a constituency obtains its desired legal outcomes, protest does not necessarily cease. Furthermore, Welch and Light (1987, appendix) document the fact that local court cases concerning busing and racial discrimination also continued after this Supreme Court ruling. These facts suggest that the relationship between busing policies, court rulings, and antibusing protests may be more complicated than has been realized.

#### THEORETICAL EXPLANATIONS OF ANTIBUSING ACTIVITY

Classical theory locates the origins of unruly collective action in structural breakdown and its consequence, individual discontent. In this perspective, the effects of social strain on forms of social solidarity are intensified by processes such as industrialization and urbanization (Durkheim [1893] 1947). According to breakdown theorists, individual anxiety and discontent produce collective action based on shared grievances (Useem 1980). Many critiques of these theories have been offered (e.g., Snyder and Tilly 1972; Tilly 1978). The most compelling argument against the breakdown model is that sources of strain are ubiquitous in any society but collective action and social movements are relatively rare (McAdam, McCarthy, and Zald 1988).

<sup>4</sup> In *Milliken v. Bradley*, the Supreme Court ruled that busing plans that were to include both suburban and city school districts must show proof that existing school district boundaries had been *intentionally* discriminatory across districts. For further explanations of this ruling, see Welch and Light (1987, p. 29) and James (1989, p. 964).

Recent theory and research on social movements and collective action has emphasized either structural or cognitive "grievance" components exclusively.<sup>5</sup> Although there are conceptual advantages to sharpening the differences between these two perspectives, the differences may have been overdrawn. It is more useful analytically to integrate both structural and cognitive components of collective action within a single perspective. Below we review the various debates and suggest how a focus on competition allows insights from both sides to be combined within a unified perspective that is also consistent with past empirical findings on the antibusing movement and racial unrest.

Two leading structural explanations of protest events are especially relevant to antibusing activity: (1) the resource mobilization theories, which "tend to emphasize the constancy of discontent and the variability of resources in accounting for the emergence and development of insurgency" (McAdam et al. 1988, p. 699), and (2) political process theories, which emphasize that social movements (and collective action) are political instruments of powerless or challenging groups that respond primarily to shifts in the political landscape.<sup>6</sup> Both perspectives highlight structural conditions rather than individual cognitive states. Resource mobilization and political process theories each emphasize that because the existence of grievances is constant for all social groups, grievances cannot fully explain collective action. These perspectives emphasize the fluctuation of economic and political resources and changes in political opportunities as instrumental to collective action and social movements (McAdam et al. 1988).<sup>7</sup>

Although resource mobilization theory emphasizes shifts in resources and grievance models emphasize shifts in grievances, few studies have analyzed the causal sequence involved in changes in grievances and protest. Some researchers (Lo 1982; Jenkins 1983) argue that these theories have not been compared adequately because nearly all tests of the grievance perspective have analyzed attitudinal data from retrospective surveys. Such research designs conflate cause and effect. As Snow et al.

<sup>5</sup> See reviews of the literature in Tilly (1978), Lo (1982), McAdam (1982), Olzak (1983), Jenkins (1983), and McAdam et al. (1988).

<sup>6</sup> There are at least two other leading macrostructural approaches to collective action. Both require data different from the event histories used in this analysis. These traditions emphasize (1) the importance of network structures (e.g., Gould 1991) and (2) the organizational ecology of social movement organizations (e.g., Olzak and West 1991; Minkoff 1993).

<sup>7</sup> We note that McAdam (1982), Tarrow (1991), and many others distinguish several ways that resource mobilization theory differs from political process theory. For our purposes, these differences are less important than the fact that both perspectives minimize the role played by grievances in producing collective action.

(1986) suggest, grievances are shaped by the process of mobilization as they become public issues and defined as legitimate bases of protest. Thus, the "frame alignment" perspective suggests that the causal link between grievances and protest activity is two-way rather than unidirectional as a pure grievance perspective would have us believe.

Contemporary advocates of the grievance perspective agree that not all grievances generate social movements. Instead, they posit that social movements are caused by "suddenly imposed grievances," that is, occasions in which nondisadvantaged populations "find themselves suddenly confronted with a suddenly realized (Love Canal) or suddenly imposed (court-ordered busing, a major oil spill, etc.) grievance" (Walsh 1981, p. 2).

Perhaps more relevant here is the criticism that grievances that arise from busing are not "sudden." Federal courts intervene in local school busing programs in response to a sustained process of local political conflict involving citizens groups, recalcitrant city councils, legal injunctions, and a host of other strategies used by local communities to delay or obstruct school integration (Formisano 1991; Taylor 1986; Orfield 1983).<sup>8</sup> Nonetheless, it may be politically expedient for antibusing protest leaders to declare that busing was foisted upon the community without warning. Framing grievances as both "sudden" and "imposed" may be a successful strategy of social movements, rather than a determinant of collective action. To the extent that movement leaders are successful in framing the issue in this manner, court-ordered busing may become defined as suddenly imposed (McAdam et al. 1988).

## COMPETITION PROCESSES

The competition perspective of race relations provides an alternative to viewing resource mobilization or political process models and grievance models as mutually exclusive. It emphasizes the fact that race and ethnic competition for scarce resources lies at the heart of ethnic collective action, whether this competition is generated objectively by growing minority enrollments in schools or is subjectively perceived as a threat to the

<sup>8</sup> Nevertheless, we also agree with case study accounts that suggest that, despite the legal reality of successive court appeals, community residents may still perceive the implementation of court-ordered busing as totally unexpected. However, we would expect that the publicity surrounding federal mandates would raise the salience of busing for residents whose children would be bused. For instance, see Rossell (1990), Armor (1980), and Stinchcombe and Taylor (1980) for evidence that suggests that collective action against busing peaks just after the courts order busing but *before* it has been implemented. Because the literature on busing protests suggests that the federal origin of busing plans may be particularly relevant in causing community conflict, we focus on this effect in this analysis.

status of the majority ethnic community. That is, competition among racial groups is entailed in both kinds of explanations. In other words, both anticipated fears that racial contact will rise and actual shifts in interracial contact foster racial conflict that has been generated by competition processes.

Competition theories of ethnic mobilization understand ethnicity as a social boundary. Ethnic and racial boundaries are constructed on a variety of cultural characteristics and symbols, often including geographical origin, race, skin pigmentation, religion, or language (Lieberson 1961; Barth 1969). Competition, defined here as a situation where groups or individuals are striving for the same limited resources (Blalock 1967, p. 73), is a social process that activates and deactivates ethnic identities or boundaries. Thus, according to competition theory, the likelihood of racial and ethnic competition is maximized when ethnic and racial groups occupy overlapping regions of social structure (Barth 1956, 1969; Nielsen 1980, 1985; Olzak and Nagel 1986). When barriers between social groups begin to break down (as happens when schools desegregate), resources that were previously reserved for advantaged groups become available to others as well. Competition intensifies. As a result, when advantaged groups seek to maintain their former privilege while formerly disadvantaged groups seek access to new rewards, conflict based on racial or ethnic identities will likely result.

The competition argument suggests that factors encouraging the breakdown of segregation barriers, such as integration policies, increase the likelihood of ethnic collective action.<sup>9</sup> We argue that policies designed and promulgated as mechanisms for increasing interracial contact (and decreasing segregation) intensify the salience of race and ethnic boundaries. The increased salience of race and ethnicity becomes a resource for group mobilization that can be transformed by social movement organizations and leaders into focused political action to limit competition.

### Effects of Changing Levels of Racial Segregation

Policy analysts tend to assume that communities with federally mandated school desegregation were more likely to experience racial unrest than communities that remained segregated (Rossell 1990). Other researchers suggest that school districts that experienced large-scale busing had more

<sup>9</sup> Ethnic collective action is defined here as (1) a collective, public gathering that takes another group (as in the case of antiblack violence) or groups (as in the case of antiforeigner violence) as the target of physical attack or threat, or (2) a civil rights march, demonstration, or protest that ethnic or racial rights have been violated and need to be redressed.

unrest than those communities that, through legal action, were able to delay busing and integration plans (Useem 1980). These assumptions have not been examined systematically. We investigate one aspect of racial conflict by analyzing the impact of both residential contact among whites and African-Americans and school desegregation on the rate of antibusing activity. We explore the notion that racial unrest will occur in metropolitan areas and school districts with declining levels of school segregation. Specifically, we propose that the magnitude of change affects the rate of unrest, holding constant initial levels of segregation and inter-racial contact.

Until now we have emphasized the theoretical importance of changes in racial interaction; however, the significance of initial conditions should not be overlooked. There is considerable heterogeneity in community vulnerability to racial unrest that is rooted in the historical traditions of racial discrimination and resistance to change (Duncan and Duncan 1957; Coleman, Kelly, and Moore 1975; Clark 1987). A community's history with respect to racial tolerance affects its rate of future outbreaks of violence (Spilerman 1976). In particular, we expect that standard metropolitan statistical areas (SMSAs) with initially higher levels of segregation in schools and initially higher levels of white isolation in neighborhoods will experience more racial turmoil than SMSAs that had experienced at least some racial integration. This expectation is consistent with the view that desegregation affects racial conflict most powerfully when a social system moves away from extreme segregation, even slightly. Indeed, many observers note that racial conflict of all kinds exploded immediately after the implementation of integration policies in American cities during the mid-1970s (Useem 1980; Sheehan 1984; Taylor 1986; Formisano 1991). Following this line of argument, we expect a rise in the number of antibusing protests throughout the 1970s in cities where initial levels of residential isolation and school segregation were high.

### Federal Intervention in Local Politics

According to resource mobilization and political process theories, collective violence is best analyzed as a by-product of political processes. In this view, collective violence results when newly competing groups make claims on the polity and others (notably state authorities) resist those claims (Tilly 1978; Jenkins 1983). We think that this perspective goes far in explaining why antibusing violence escalated during the mid-1970s in the United States. As McAdam (1982), Burstein (1985), Taylor (1986), and others have documented, many federal court rulings and laws undermined local communities' ability to stem the process of integration

through normal political channels during this period. The introduction of federally mandated busing plans for local areas provoked communities to resist busing with picketing, boycotts, demonstrations, riots, and other forms of collective action. Thus, residents became politically active in part because the federal government actively promoted local desegregation plans.

Federal intervention in local political issues such as school desegregation has been interpreted in another way. Researchers from the grievance tradition cite community protests that followed oil spills, nuclear power accidents, and court-imposed busing as prototypical instances of social movement activity instigated by widespread grievances that mobilized (especially middle-class) communities to act (Walsh 1981). The hypothesis that the source of the desegregation mandate (i.e., federal or local) helps determine community responses to busing would thus be supported by both political process and grievance models of ethnic mobilization.

Therefore we propose that what matters to local communities is whether a mandate is federal or local in origin. Collective public resistance to busing was just one of many reactions to federal directives to integrate schools. Many metropolitan areas responded to desegregation directives with voluntary integration or by setting up magnet schools. Of course, local communities fought (and still do fight) busing plans in local and state courts quite regularly (Welch and Light 1987). Sometimes, community opposition led local officials to respond with complicated legal maneuvers to delay court-ordered busing (Rossell 1990). Thus, the presence of busing mandated by federal courts may have had an especially galvanizing effect on antibusing activity over this period. If grievance arguments hold generally, we expect that federal intervention would raise rates of antibusing activity. Thus, the antibusing movement provides a type of natural experiment for testing the merits of one implication of the grievance argument (McAdam et al. 1988).

Competition arguments identify a mechanism by which imposed grievances produce waves of racial unrest. In this interpretation, whites voiced racial grievances during antibusing protests, because they feared that racial competition would increase as a result of busing. But these fears were not by themselves sufficient to fuel antibusing protests. Instead, it is where and when these fears were (at least partially) realized that conflict erupted. Above, we suggested that changes in levels of interracial contact and exposure affect rates of racial collective action. Where whites expected to experience more interracial contact with African-Americans in schools and neighborhoods that were formerly all white, local disputes over access to educational opportunity and resources became salient to racial and ethnic boundaries.



### Class Composition and Antibusing Activity

Class differences within ethnic and racial groups clearly had an impact on the nature and magnitude of the response to busing. In general, competition and class theories of collective action would hold that SMSAs with higher proportions of working-class whites would experience higher rates of antibusing activity. According to Wilson (1978, p. 116), racial competition over scarce resources in integrated working-class neighborhoods amplifies racial tensions:

Indeed, the racial arena in the central city today increasingly involves a confrontation between working-class whites and poor blacks. . . . The racial struggle for power and privilege in the central city is essentially a struggle between the have-nots; it is a struggle over access to and control of decent housing and decent neighborhoods, as exposed by the black-white friction over attempts to integrate the working-class ethnic neighborhood of Marquette Park on Chicago's South Side; it is a struggle over access to and control of local public schools.

Wilson argues that anti-integration violence erupts among working-class whites for two reasons: first, working-class whites are more likely to live closer to working-class African-Americans whose children are bused, and second, less affluent whites in general lack the financial resources that enable them to flee to all-white suburbs. Thus, poor white communities generate more antibusing activity not because they hold more racist attitudes but because they have fewer alternative ways to avoid interracial contact. In contrast, middle-class communities can use a wide variety of banking, insurance, and real estate strategies to maintain segregated schools. Middle-class communities also have greater access to private schools, which are not subject to desegregation rulings. Such explanations are corroborated by case study and survey data on hostility to busing.<sup>10</sup> For example, Formisano's (1991, pp. 232–33) study of Boston concludes that support for the antibusing movement was concentrated in white working-class neighborhoods.<sup>11</sup>

Another "class conflict" argument deserves mention. Some researchers have argued that opposition to integration may reflect the fact that racial discrimination is predominantly exercised against lower-class African-Americans. Some support for this argument has been found in surveys of

<sup>10</sup> Within the black community, class differences distinguish levels of support for busing. Higher levels of education increase support for busing among blacks as well as for whites (Schuman et al. 1987). For discussion of African-American views on issues related to residential integration see Leigh and McGhee (1986) and Chandler (1992).

<sup>11</sup> See James (1989) for a discussion of how the dynamics of class affect the maintenance of suburban and central city school district boundaries.

attitudes toward residential integration. Whites' opposition to residential integration declines if the potential neighbor who is black has the same education and income as the respondent. Schuman and Bobo (1988) conclude that this supports the view that the social class background of blacks moving into the integrating community is relevant to the level of opposition to busing voiced by whites. Using this argument, the threat of integration of poor blacks into all-white neighborhoods generates more white opposition than does integration by middle-class blacks.

Results from national surveys show consistently lower support for busing among less educated whites, suggesting that class (to the extent that it is indicated by education differences) affects opposition to busing (Schuman et al. 1987). These findings are also consistent with the proposition that lower-class whites actively opposed busing when they were confronted with even modest desegregation pressure and low levels of opportunity to move to all-white suburbs. Accordingly, it seems reasonable to examine the effects of indicators of class differences between whites and blacks. As Massey and Denton (1993) show, the concentration of blacks in poverty and extreme levels of racial isolation in cities produces highly skewed class and race distributions in urban neighborhoods. This means that relatively few upper- and upper-middle-class whites actually interact with blacks in schools or neighborhoods. The key point is that working-class whites and lower-middle-class whites are the groups most likely to be affected by school desegregation.

### Contagion and Antibusing Protests

Studies of racial unrest (during the 1960s as well as the 1990s) provide evidence that events and grievances diffused across cities and regions. Diffusion involved a variety of imitative behaviors such as looting and burning, gang violence, and other forms of civil unrest (National Advisory Commission on Civil Disorders 1968). Many studies have examined the occurrence of, participation in, and spread of race riots in (mostly urban) America during the 1960s.<sup>12</sup> Researchers reason that the occurrence of one widely publicized race riot might induce imitations in other cities experiencing racial tensions (Tuttle 1970). Paige (1971), Spilerman (1970, 1971), Hamblin, Jacobsen, and Miller (1973), and McPhail and Wohlstein (1983) suggest that information about racial unrest in particular spreads rapidly across communication networks.

Contagion is specified here as a positive effect of a recent event on the likelihood that another collective event will occur (in an SMSA). If

<sup>12</sup> For reviews, see McPhail and Wohlstein (1983), Olzak (1983), and See and Wilson (1988).

contagion operates, many similar events may occur within a brief time span. We also expect exhaustion effects to operate, such that the rate drops sharply if long periods without any events are experienced.

## RESEARCH DESIGN

To explore whether interracial contact and federal intervention affected antibusing protests we employ data from the 1968–90 period documenting changes in interracial contact in schools and neighborhoods. We specify models that include the effects of both grievances (measured by court-ordered busing) and interracial contact (measured by school and residential desegregation). Our research design tracks histories of antibusing incidents (where participants conveyed grievances against busing plans) that were reported in the *New York Times*. We identified candidate events from the *New York Times Index* and then coded characteristics of events, defined here as public, collective protests against busing, from daily accounts. As with all research strategies, there is likely to be some error in using newspapers to gather information on the timing of events. Fortunately, our own empirical investigations of possible sources of bias suggest that using the *New York Times* as the main source of conflict data causes far less bias than was originally suspected.<sup>13</sup>

<sup>13</sup> Event-history analysis requires reliable information on the dates, durations, and nature of the conflict, rather than the reporter's characterizations of participants and motivations, as is the case in content analysis. Newspapers are much more likely to agree on the timing and location of events than on more subjective assessments (Olzak 1992). Fortunately, we are less concerned with reporters' interpretations of events. Nevertheless, we searched for some sources of systematic bias that could arise from relying on the *New York Times*. In one investigation, we compared *New York Times* coverage of four race riots that occurred in Miami, Florida, in 1980, 1982, 1984, and 1989 with coverage in four local papers (including one Spanish-language paper). In another analysis, we contrasted *New York Times* accounts of antibusing activity in Louisville and Boston with accounts in local papers. We were surprised to find that local papers and the *New York Times* agreed on most dimensions. Most important for event-history analysis, there were no discrepancies on such key variables as the timing, duration, and location of events and the number and ethnicity of those involved. As a reviewer reminded us, we do not have an independent cross-check of ethnic collective events that may have been reported in some local source but not reported in the *New York Times*. Unfortunately, our two-stage method of data collection cannot be exactly replicated using local sources because most local newspapers do not have an annual index (as the *New York Times* does). For the analysis of 60 SMSAs over 22 years presented here, this means that 481,800 daily newspapers would have to be read completely. In addition, there is some evidence that problems associated with using the *New York Times* as a sole source may not be as severe as originally suspected. McCarthy, McPhail, and Smith (1993) analyzed differences across various media sources of information on protest in Washington, D.C., and found little evidence of systematic bias.

Our approach focuses attention on the event as the primary unit of observation. This focus allows us to analyze the history of confrontations as they unfold over time. Event analysis allows us to examine diverse forms of collective action—such as riots and civil rights protests—in the same analysis. In this way, information on the timing, participants, claims, and violence can be compared along similar dimensions for different forms of ethnic activity in future research on ethnic and racial unrest (Olzak 1989). We collected information on two basic types of events: conflicts, which are confrontations between two or more ethnic or racial groups, and protests, which are primarily instigated by one group on behalf of their civil rights (see Olzak and West 1990).<sup>14</sup> For example, the following incident that was part of a long campaign against the use of busing in the Canarsie section of Brooklyn, New York, was described in the *New York Times* that had a dateline of October 31, 1972 (published on November 1, 1972).

A communitywide parents' boycott kept more than 9,000 Canarsie pupils out of classes and forced 6 schools to close yesterday as 29 Black and Puerto Rican children from Brownsville, guarded by 200 riot-equipped policemen, again attended John Wilson Junior High School 211 in Brooklyn. As the Brownsville children marched to the embattled Canarsie High School, the large police detail kept 1,500 jeering and booing white demonstrators behind barricades set up away from the school's entrance. There were no disorders such as those that occurred on Friday when the 29 pupils first entered the school and the police had to repulse demonstrators who broke through the barricades.

The report suggests that more than one antibusing "event" occurred during a week in Canarsie. Our coding rules distinguish an event using

<sup>14</sup> We agree with those who argue that newspapers such as the *New York Times* are likely to ignore most small-scale, racial or ethnic attacks (also referred to as "hate crimes" in recent years). In fact, we would guess that most cases of everyday discrimination, slights, verbal abuse, and ethnic vandalism go unreported (to authorities and in newspapers). Individual attacks are probably even less likely to be considered newsworthy events, even if they involve an interracial crime. This fact makes it difficult (if not impossible) to obtain an unbiased sample of hate crimes from newspaper or police reports. Thus we restrict our scope to analyze events that were (1) public, (2) corroborated by reporters or witnesses, (3) collective, and (4) primarily racial or ethnic in nature. We also err on the conservative side, taking only those events with clear-cut indications that they meet our criteria. We also note that *New York Times Index* labels many events as "hate crimes" that do not meet the criteria of being collective, corroborated, and public events. This fact only becomes apparent after the daily account has been consulted. Although we can easily recall instances of dramatic racial or ethnic crimes that were widely publicized, we assume that most so-called hate crimes perpetrated by individuals go unreported in a national newspaper such as the *New York Times*. To focus on those ethnic collective events that are theoretically relevant, our analysis thus excludes reports of crimes of vandalism by unknown assailants and assaults or attacks by one individual.

three criteria: (1) similarity or difference in personnel or organizations involved, (2) same SMSA or central city location, and (3) continuity of action over time (one event involves gaps of less than 24 hours in action). Though other strategies might consider this report as only part of the history of the Canarsie antibusing movement, we code two distinct events from the single report above: the first was a violent demonstration on October 27; the second event was a large boycott on October 30.<sup>15</sup> We record the chronology of each antibusing event in order to create an event-history data set that uses information on the exact timing of events.

### Dependent Variable

The dependent variable in our analyses is the duration between the antibusing events in each of 60 SMSAs in the analysis of the consequences of interracial contact, in each of 58 SMSAs in the case of school segregation, and in each of 37 SMSAs in the joint analysis of school and residential contact between whites and African-Americans. In each case the number of SMSAs is determined by the availability of residential and school desegregation information (see table A1 in the appendix).

We use event-history analysis primarily so we can exploit all of the available evidence on the exact timing of collective actions. Use of this method is important because it allows us to examine several ways that ethnic collective action gains momentum and becomes contagious over time. With event-history analysis we are able to examine the effects of recent (comparing daily, weekly, or monthly) activity, the amount of time that passed since a previous ethnic conflict, and the effect of whether or not an SMSA has a history of antibusing protests at the beginning of the school year.

### Independent Variables

To adequately address the argument that declining levels of segregation provoke racial unrest, we need to include measures of school segregation and residential exposure as independent variables in the models. We

<sup>15</sup> Unless there is a change in the type of event (as in this example, where the first stage of the event was a violent protest and the second stage was a boycott) our coding rules generally ignore the passage of time over weekends, due to the fact that school busing was constrained by the school week. Antibusing events (in the same SMSA, same participants, with the same event form) that took place daily for one week during the school week that began at 8 a.m. each day and lasted at least one hour each would be coded as one five-day event (since the gap between ending times and the starting time of the next event would be less than 24 hours). A full discussion of coding rules can be found in Olzak and West (1990).

discuss these below along with a number of other relevant variables selected because previous research has shown them to be important to our understanding of the process of desegregation.

*The isolation and exposure indexes.*—Data on residential exposure and isolation were provided to us by Douglas Massey (see Massey and Denton 1989). For two groups, whites and African-Americans, the exposure index for an SMSA is the probability that a randomly chosen white will come into contact (or interact) with an African-American resident in that census tract ( ${}_wP_b^*$ ). The isolation index ( ${}_wP_w^*$ ) gives the probability that a randomly chosen white will interact with another randomly chosen resident who is also white.

Formally, the  ${}_wP_b^*$  index is defined as:

$${}_wP_b^* = \sum_{j=1}^J \left( \frac{w_{ij}}{W_i} \times \frac{b_{ij}}{T_{ij}} \right), \quad (1)$$

where  $w_{ij}$  is the number of whites, denoted by  $w$ , in a census tract  $j$  in SMSA  $i$ . The denominator  $W_i$  is the number of whites in the SMSA. On the right,  $b_{ij}$  is the number of African-Americans in census tract  $j$  in SMSA  $i$ , and  $T_{ij}$  is the total population in tract  $j$  in SMSA  $i$ . The summation symbol indicates that the index is summed over  $J$ , the total number of census tracts in an SMSA. High levels of  ${}_wP_b^*$  in an SMSA indicate that whites are relatively more likely to interact with African-Americans by virtue of sharing residence—in other words, that their exposure to African-Americans is high. Positive values of change in this index indicate that interracial contact has risen.

Liebertson and Carter (1982) analyzed various indexes of racial segregation and concluded that  $P^*$  is appropriate when there is reason to believe that the proportion of minorities in a population affects subsequent changes in the level of segregation.<sup>16</sup> Because the  $P^*$  index takes group size into account, indexes calculated to measure the interracial contact of two groups will be asymmetrical in most cases. In our analysis, for example, whites' exposure rate ( ${}_wP_b^*$ ), is not simply the inverse of blacks'

<sup>16</sup> In practice, this means (all else being equal) that an increase in the proportion of the minorities will raise the majority group's exposure to minorities. Liebertson (1980) argues that as proportions of black migrants to northern cities rose, whites' isolation levels should have declined around the turn of the century. But they did not decline as much as would be expected given the increase in African-Americans during this period. Based on his findings, we chose the isolation/exposure index  $P^*$  as the one that was most sensitive to this process of shift in proportions (as well as theoretically relevant to the process of interracial contact). For evidence comparing relative utilities of various indexes of segregation and dissimilarity see Farley (1977), Liebertson (1980), Liebertson and Carter (1982), White (1986), and Massey and Denton (1988, 1989), among many others who have researched this issue.

exposure level ( ${}_bP_w^*$ ; see Lieberman 1980). Nor is it the case that African-American segregation varies inversely with whites' exposure to African-Americans, because SMSAs with high proportions of African-Americans that are also highly segregated will have higher exposure indexes ( ${}_wP_b^*$ ) than equally segregated SMSAs where African-Americans are small in proportion to the total population.<sup>17</sup> Since antibusing activity was primarily instigated by whites, we focus on changes in whites' exposure to African-Americans as the key explanatory factor in the model (and not changes in African-Americans' exposure to whites).

**HYPOTHESIS 1.**—*SMSAs with higher initial levels of isolation of whites, as measured by the isolation index,  ${}_wP_w^*$ , will experience higher rates of antibusing activity when integrationist policies are implemented.*

**HYPOTHESIS 2.**—*SMSAs that experience a greater decline in residential segregation of whites, as measured by changes in the interracial exposure index,  ${}_wP_b^*$ , will experience higher rates of antibusing activity.*

**The dissimilarity index of school segregation.**—The *D* index (James and Taeuber 1985) is often interpreted as the proportion of minority group members that would have to be transferred to another school if the SMSA school system were to be desegregated and if only one race were to be transferred (as is often the case).<sup>18</sup> The index used in this analysis was calculated by James (1989) from the annual surveys of public school enrollments collected by the Office for Civil Rights (1968, 1979). The central city school districts for which data are available were selected by James (1989) because they had high levels of African-American enrollments in 1968.<sup>19</sup> We use the *D* index for 1968 to measure the initial levels of segregation in the 58 central city school districts and the change in the *D* index between 1968 and 1976 to indicate change in segregation over the period.<sup>20</sup>

<sup>17</sup> Note that  ${}_wP_w^*$  refers to the isolation of non-Hispanic whites and  ${}_bP_b^*$  refers to non-Hispanic blacks. Thus the addition of  ${}_wP_w^*$  and  ${}_wP_b^*$  does not sum to 1.0, since most SMSAs contain some Hispanics, Asians, Native Americans, and other groups not included in the categories white and black. For further discussion, see Massey and Denton (1989).

<sup>18</sup> In our view, it would have been preferable to use  $P^*$  exposure index measures for school segregation had they been available (Rossell 1990). James (1989) compared the two commonly used indexes in his analysis and found no substantial differences in behavior for the *D* and  $P^*$  indexes.

<sup>19</sup> This is because policies to achieve racial balance predominantly bused African-American students to white schools. Only in districts with relatively high proportions of African-Americans would busing work to achieve more integration (Rossell 1990).

<sup>20</sup> In the residential segregation analysis, our observations on antibusing events begin in 1970 to coincide with the residential segregation measure taken in 1970. In the

We use the *D* index to test the hypothesis that the initial distribution of African-Americans and whites in a central city's school system captures important features of the history of racial interaction in the community. In cities where apartheidlike conditions have prevailed, moves toward greater integration are likely to provoke more intense reactions to resist change.

**HYPOTHESIS 3.**—*Center cities of SMSAs with a high initial level of school segregation, as measured by the dissimilarity index, will experience higher rates of antibusing activity when integrationist policies are implemented.*

Our fourth hypothesis focuses on deviation from segregation as a key cause of ethnic and racial collective action. We expect higher antibusing activity in settings where there was an increase in interracial contact. In other words, we expect more racial turmoil in those center cities of SMSAs that were most successful in their efforts to comply with public policy.

**HYPOTHESIS 4.**—*Center cities of SMSAs that experience more school desegregation, as measured by a larger decline in the dissimilarity index in central city school districts, will initially experience higher rates of antibusing activity.*

### Federally Mandated School Desegregation

The literature on busing policy suggests three reasons why the federal origin of busing plans might be important. First, imposition of federal mandates could mean that local plans were met with local resistance (Orfield 1978). Second, as discussed earlier, federally mandated busing has been described in the literature as a prototypical example of a "suddenly imposed grievance" (Walsh 1981; McAdam et al. 1988). Third, once federal mandates are issued, few institutional avenues to resist busing remain open, so subsequent antibusing activity most likely takes the form of nonroutine protests against school integration. To measure the combined impact of future challenges to local authority, past hostility to integration, and expected increases in threats to racial dominance, we include a dummy variable coded "1" if desegregation in an SMSA was

---

school segregation analysis our observations on antibusing events begin in 1968, because that is when information on school segregation begins. In addition to the *D* index we also include, from James (1989), both the percentage of African-American students attending central city public schools and suburban public schools in 1968, where suburban public schools are those in the SMSA not included in the central city school district.



implemented by federal court order (and "0" otherwise).<sup>21</sup> Thus we distinguish between expectations and fears that desegregation will happen (despite local opposition) and actual shifts in desegregation that have occurred.

**HYPOTHESIS 5.**—*SMSAs where desegregation is imposed by the federal government will experience higher rates of antibusing activity than cities where desegregation was voluntary or imposed by local authorities.*

**Class characteristics of SMSAs and antibusing protests.**—Based on the observation that whites' opposition to busing is generally greater in white working-class communities, we expect that SMSAs with a higher percentage of whites who are lower middle and working class will experience more antibusing activity.<sup>22</sup> Here we argue that in SMSAs in which a larger percentage of the white population is working class, the implementation of busing plans will increase competition with blacks for jobs, quality education, housing, and other resources. Our measure of the percentage of whites in the lower middle and working class is taken from Massey and Eggers (1990). The combined working and lower middle class is defined as the percentage of whites with incomes just above the poverty line of \$7,500–\$14,999 (in 1979 dollars). This measure is available for the SMSAs analyzed in tables 1 and 3. Data on class composition were not available for all of the 58 SMSAs analyzed in table 2, so we used the percentage of whites below the poverty line in 1970.<sup>23</sup> As table A2 in the appendix shows, these measures have a correlation of .67.

**HYPOTHESIS 6.**—*SMSAs where the percentage of whites in the lower middle and working class is high will experience higher rates of antibus-*

<sup>21</sup> Those SMSAs that are coded "0" on this variable include cities that implemented all kinds of desegregation plans on their own, including voluntary busing, magnet schools, and redistricting to include suburban areas (see Welch and Light [1987] for details; Rossell [1990] for evaluation of the effectiveness of these plans). The data on school segregation levels from 1968 and 1976 were taken from James (1989, p. 969), table 1.

<sup>22</sup> Based on the argument that antibusing activity of whites is related to class discrimination, we also examine whether there is an effect of the poverty rate in African-American communities (see Taylor 1986).

<sup>23</sup> Poverty income level in 1969 was adjusted for family size, sex of family head, number of children under age 18, farm and nonfarm residence, and price changes of items in an adequate food budget set by the Department of Agriculture. Thus, the measure includes money income and excludes nonmoney transfers, which in 1969 may have included food stamps, subsidized or rent-free housing, retirement programs, and other in-kind transfers. See "Poverty Status in 1969 of Persons and Families for States, SMSAs, Central Cities, and Counties" (Bureau of the Census 1975). We also analyzed the effects of black working class and black poverty rates. All else being equal, we expect SMSAs with higher proportions of poor blacks to generate more hostility to busing than SMSAs with more affluent black communities.

*ing activity than SMSAs where the proportion of whites in this class is relatively lower.*

*Control variables.*—We control for both the size of the SMSA and its population composition by including the log of population size in 1969 in all analyses and the proportion of African-Americans in the center city and suburban schools in 1968 in the analysis of school segregation. Based on past research on racial unrest (Spilerman 1976), we expect that SMSAs with higher proportions of African-Americans will experience higher rates of racial protest and conflict. Finally, we control for regional effects by including in each of the models a dummy variable indicating whether an SMSA is located in the South, a region that has often been depicted as opposed to racial integration in neighborhoods and schools. We also included specific analyses of SMSAs that contributed a disproportionate number of antibusing events in the sensitivity analysis that follows.

### Investigation of Duration Dependence

Past research using event-history data on collective action has recast processes of contagion in terms of duration dependence in the rate of occurrence (Olzak 1992). If recent ethnic or racial conflicts elevate the rate of antibusing protests, then the rate of antibusing activity will decline as time elapses since the previous event in an SMSA. Thus, we specify a model that examines whether the length of time between ethnic events affects the rate of antibusing activity in an SMSA. Put differently, we investigate whether the rate of occurrence varies with time since the previous event of ethnic unrest in an SMSA.<sup>24</sup> The standard way to explore this question is to consider plots of the integrated hazard function against duration (time since the last event in an SMSA). If the rate does not vary with duration, then the plot of an integrated hazard function

<sup>24</sup> Readers might reasonably question why duration dependence is measured in terms of days since any previous ethnic or racial collective protest or conflict rather than duration since the last antibusing event in an SMSA. Our answer is mainly theoretical: recall that competition theory suggests that the occurrence of ethnic activity raises the salience of ethnic and racial boundaries in general (Barth 1969; Olzak and West 1991). We also rest our decision on empirical evidence that suggests that the rate of all other types of ethnic collective action affect the rate of some specific type of ethnic unrest. Olzak (1992) found that the rate of protest affects the rate of ethnic or racial conflict (and vice versa). The event-history literature contains many examples of formulations of this type. For instance, in modeling the effects of various life-events, Blossfeld, Hamerle, and Mayer (1988) expected and found that unemployment (job duration) affected the rate of divorce (measured by marriage duration). A common method for treating these multiple consequences in event-history analysis is to treat spells that end in other types of events as censored. These are referred to as "cause-specific hazard rates" (Kalbfleisch and Prentice 1980, pp. 168–75).

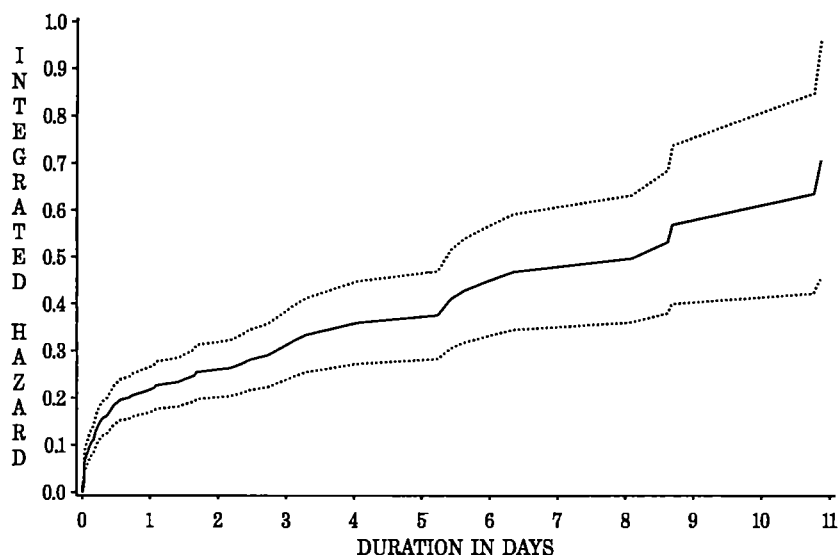


FIG. 1.—Plot of integrated hazard (Nelson-Aalen estimates) and duration; 95% confidence interval in dotted lines.

against duration is approximately linear (Tuma and Hannan 1984, chap. 3). Figure 1 provides such a plot for the data on the timing of antibusing events in an SMSA (using Aalen's [1978] estimator of the integrated hazard). Notice that the relationship in figure 1 is extremely nonlinear. The integrated hazard rises sharply at one day but then flattens out before rising again between durations of 5–7 days. This empirical pattern is not consistent with the class of parametric models such as Gompertz or Weibull models.<sup>25</sup>

A second source of variation in the timing of events concerns the school calendar year. We discovered that many antibusing protests happened

<sup>25</sup> In our exploration of these data, we first examined two classes of parametric models that take time dependence into account. We compared the fit of two functional forms that are often used for this purpose, the Weibull and Gompertz specifications (see Hannan 1989; Tuma and Hannan 1984). Recall that the Gompertz specification implies a linear relationship between the log of the integrated hazard and duration and that the Weibull model implies that log-hazard approximates a linear function of log-duration (see Tuma and Hannan 1984, chap. 3). Our examination of a plot of log-hazard against duration indicated that the Gompertz specification of this process is not appropriate, because this graph is clearly nonlinear. At the same time, the plot of log-hazard against log-duration was not consistent with the Weibull model of time dependence, because log-hazard increased sharply at an interval of one day (Cox and Oakes 1984). The jump in the integrated hazard around one day durations is easily verified in fig. 1 as well.

in September, when most schools begin their academic year and when new busing plans are most likely to be implemented. Seen in this light, the fact that our antibusing event data cluster in the fall (especially in September) and contain numerous events spaced exactly one day apart should not be surprising. That is, we assume that the timing of reactions to busing will reflect a school's seasonal calendar and the school day schedule. We decided to turn this problem into an advantage. We reasoned that an SMSA's history of tumultuous "school openings" in September had a specific effect on the rate. We directly model this temporal structuring of collective action by including a dummy variable coded "1" if an SMSA had a prior event that both (1) was an antibusing protest and (2) occurred during the month of September (in any year). Thus all first events in a city are coded "0," even if they happened in September. In the residential segregation analysis, 37 of the 132 events occurred in September. In the school desegregation analysis, this accounted for 17 of the 144 events.

#### Estimation: Piecewise Linear Model

We model duration dependence using a nonparametric linear piecewise exponential specification. Following Tuma and Hannan (1984), Carroll and Huo (1988), and Blossfeld et al. (1988), we allow the rate to shift at a number of predetermined durations (defined here as the amount of time that has elapsed since any kind of ethnic or racial incident). We tried a wide variety of different specifications and found that the natural units of daily, weekly, and monthly periods fit the data very well. Our final specification uses seven pieces, ranging from less than one day up to five years' time since the previous event. We also followed Carroll and Huo (1988) and Tuma and Hannan (1984) and examined models that included full interactions with duration. This last investigation revealed that specifying full interactions with these duration pieces is not warranted.

Contagion and exhaustion can be analyzed in terms of the distribution of time between events; here we estimate this effect with a nonparametric model that includes substantively relevant duration covariates (see also Carroll and Huo 1988). The model of contagion and exhaustion that we use implies negative time dependence. That is, we expect that the rate of antibusing events will decline with the passage of time since the previous event. We specified the effect of exhaustion as duration since the last event, indicated by the year of the previous event (or the year of the first spell for an SMSA with no events). To test the idea that the amount of time since the last ethnic protest or conflict event affects antibusing activity, we include the year of the previous event in these models. If we are

correct, this indicator of the passage of time since previous ethnic protests or conflicts should negatively affect the rate.<sup>26</sup>

## RESULTS

Given the fact that information on residential and school segregation in SMSAs is available for two slightly different sets of SMSAs during this period, we first present analyses of the effects of residential and school segregation separately. Then we present analyses of that subset of SMSAs for which both measures of segregation are available. In this way we can exploit the maximum number of observations on residential and school segregation and compare these results with a smaller subset of SMSAs (see table A1 for a list of SMSAs in each of the three analyses). Our first analysis presents the effects of residential segregation from 1970 to 1990 for 60 SMSAs for which complete information on racial conflict, population, poverty, and residential segregation is available. These 60 SMSAs had 132 antibusing events (uncensored spells that ended in an antibusing event) over the 1970–90 period.<sup>27</sup> Our second analysis examines the effects of school desegregation in 58 SMSAs for which school segregation measures are separated into the constituent central cities and suburban regions. This second analysis analyzes data on 144 antibusing events during 1968–90. Our third analysis uses data on 127 events from 37 SMSAs that have information on both residential exposure and school desegregation, during 1970–90.<sup>28</sup>

We define an antibusing event as a collective action in which the main motivation articulated by participants is to obstruct a proposed or ongo-

<sup>26</sup> To see if there were changes in the effects across periods, we interacted all key variables with this measure but found no significant interaction effects.

<sup>27</sup> If an SMSA has an antibusing event during 1970–90 (or 1968–90 for the school desegregation analysis), then the first observation in an SMSA is uncensored at the time of the first observed antibusing event. Each SMSA has one right-censored spell that ends in December 31, 1990. Thus, an SMSA with no events of any kind will have one censored spell with a duration time of 21 years (no events in any year from 1970 through 1990).

<sup>28</sup> Our measures of the covariates are constant over time. Concretely this means that, for example, in the school desegregation data, a spell ending with an antibusing event prior to 1976 ends before our observations on change in segregation have completely ended (since they are measured over the 1968–76 period as a whole). Ideally, we would have preferred measures of yearly changes in segregation. Unfortunately, residential and school segregation data from the same SMSAs are available to us from only two time points. Since most of the publicly available data sets sample different school districts each year, we have been unable to find time-series data for this same set of SMSAs over the 1968–90 period (Office for Civil Rights 1968, 1979; Welch and Light 1987). We therefore warn the reader to interpret our results cautiously due to these limitations.

ing busing program designed to achieve racial balance. Most antibusing events over this period were protests. These protests took a variety of forms, including meetings, rallies, picketing, and boycotts, as well as a small number of riots. Rallies were the most popular form of antibusing protest, followed by boycotts. Confrontations between busing supporters and the police also erupted on many occasions, especially in Louisville, Chicago, and Boston.

The number of antibusing events varies considerably among SMSAs. Table A1 lists the number of antibusing protests in each SMSA. While most SMSAs had no events, one-third of our SMSAs had at least one protest, and Chicago and Boston had over 40 antibusing events during 1968–90. Using event-history methods allows us to cope with censoring and to test specific hypotheses about duration dependence.<sup>29</sup> For example, we test the hypothesis that the rate of antibusing protest and conflict declines with time since the previous ethnic or racial protest or conflict event in an SMSA.

Figure 2 plots the counts of 132 antibusing events (analyzed in table 1 below) that occurred over the 1970–90 period in the 60 SMSAs analyzed in the residential exposure analysis against all other kinds of ethnic protests and conflicts that we coded over this period. The peaks and troughs for each type are quite different—antibusing activity rises and peaks during the mid-1970s, but then its incidence declines sharply toward the end of that decade, while peak periods of all other forms of ethnic conflict and protest occur in the late 1960s, around the year 1980, and again in 1987. Such differences suggest that antibusing protests and conflicts had origins different from the origins of other forms of ethnic or racial unrest.

It may be useful to discuss the distribution of events over time within SMSAs as well, since this is the information used to calculate the rate of antibusing protests in each city. Of the 132 events that took place from 1970 to 1990 (analyzed in tables 1 and 3 below), 50% of all first busing protests in any SMSA occurred from January 1970 through the end of March 1973 and 50% occurred after that date, with the greatest number taking place in 1971. After an initial protest or conflict had occurred in

<sup>29</sup> We follow Kalbfleisch and Prentice (1980, pp. 168–72) and test the assumption that a cause-specific hazard-rate model is appropriate. Past research suggests that the rate of antibusing activity is positively affected by the timing of other kinds of events organized around race and ethnicity; civil rights marches, race riots, or racial and ethnic unrest of all kinds apparently raise rates of ethnic conflict involving any target. The maximum likelihood estimator used in analyzing regressions of durations between events accommodates information on multiple ethnic events by censoring spells that do not end in antibusing protests (see Tuma and Hannan 1984; Carroll and Huo 1987). Our results comparing the causal structure of antibusing events to models of other kinds of ethnic disturbances support our decision.

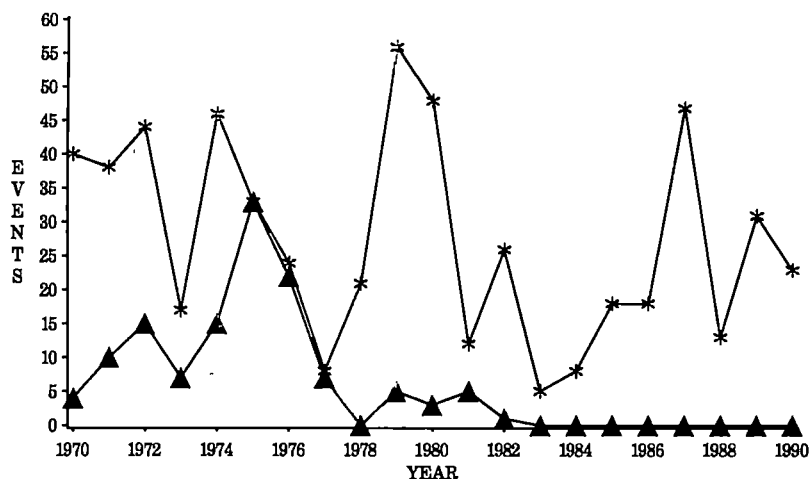


FIG. 2.—Antibusing events (triangles) and all other racial and ethnic events (stars) in 60 SMSAs, 1970–90.

an SMSA, the average interval to a subsequent protest or conflict was relatively short (about four months). First events occurred any time between the early days of 1965 through the end of 1980 (but none after that year). Subsequent events took place from the late 1960s through the end of 1982. So, although antibusing protests and conflicts were still occurring by the end of 1982, antibusing protests and conflicts were closely spaced in time within each SMSA that experienced an antibusing protest or conflict.

### Residential Exposure Analysis

Consider first the effects of initial (1970) levels of exposure and isolation on the rate of antibusing activity in table 1. SMSAs where whites' residential isolation (from *all* other groups) was greatest had significantly higher rates of antibusing protest. This pattern suggests that antibusing protests were mobilized most frequently where whites' isolation was initially high. All three columns in table 1 also show that the initial level of whites' exposure to African-Americans did not affect this rate significantly.<sup>30</sup>

<sup>30</sup> In each of the following analyses, we control for the effect of population size, class, and racial composition on the duration between antibusing events (or length of waiting times). Each model also contains seven parameters indicating duration dependence: for less than one day, one day, less than a week, several months, six months to a year, and one to five years' time since the previous event of any kind.

TABLE 1

EFFECTS OF CHANGES IN WHITES' RESIDENTIAL EXPOSURE TO BLACKS ( ${}_wP_b^*$ ) AND  
CHANGES IN WHITES' ISOLATION LEVELS ( ${}_wP_w^*$ ) ON THE RATE OF  
ANTIBUSING EVENTS IN 60 SMSAs, 1970-90

	MODEL		
	1	2	3
Intercept .....	201*** (41.2)	207*** (42.7)	201*** (42.7)
ln(population), 1969 .....	.184 (.179)	.352* (.199)	.296 (.193)
Southern region .....	.854** (.332)	-.011 (.442)	.491 (.360)
Proportion of whites in lower middle or working class .....	3.31 (2.80)	11.2** (3.98)	9.14** (3.94)
Whites' residential exposure to blacks ( ${}_wP_b^*$ ), 1970 .....	1.45 (6.96)	-1.93 (7.36)	10.4 (8.73)
Whites' residential isolation ( ${}_wP_w^*$ ), 1970 .....	13.6*** (3.64)	17.0*** (3.95)	25.6*** (6.55)
Change in whites' residential expo- sure to blacks, 1970-80 .....		57.1** (18.0)	
Change in whites' residential isola- tion, 1970-80 .....			-25.9** (10.5)
School opening had antibusing event .....	.961*** (.242)	.961*** (.242)	.944*** (.243)
Duration:			
Less than 24 hours .....	11.0*** (.600)	11.4*** (.623)	11.1*** (.600)
1-2 days .....	10.6*** (.667)	10.3*** (.630)	10.9*** (.600)
3-7 days .....	9.19*** (.596)	9.56*** (.624)	9.30*** (.596)
8-30 days .....	7.72*** (.608)	8.07*** (.635)	7.82*** (.607)
1-5 months .....	6.19*** (.601)	6.52*** (.622)	6.28*** (.598)
6-12 months .....	4.46*** (.672)	4.61*** (.680)	4.45*** (.668)
1-5 years .....	3.30*** (.603)	3.54*** (.612)	3.34*** (.597)
Time since previous spell .....	-.113*** (.021)	-.120*** (.022)	-.121*** (.022)
Log likelihood .....	-301.8	-297.0	-298.8

NOTE.—Asymptotic SEs in parentheses;  $N$  (uncensored spells) = 132; significance measured by one-tailed  $t$ -tests.

\*  $P < .05$ .

\*\*  $P < .01$ .

\*\*\*  $P < .001$ .



The pattern of results in columns 1, 2, and 3 suggests that high levels of racial isolation of whites reflect a culture of "American apartheid" that encourages resistance to desegregation (Massey and Denton 1993). That is, our results show that in SMSAs where all-white neighborhoods initially predominated, white residents mobilized against school integration (net of the effects of changes in isolation or exposure).<sup>31</sup> We interpret these results as indicating that whites will be more likely to mobilize where integration threatens the legacy of white privilege. We return to this notion of white privilege below.

*Changes in residential exposure and isolation.*—Did shifts in whites' exposure to blacks and shifts in whites' isolation affect the rate of antibusing activity? The results in columns 2 and 3 in table 1 show clearly that they did.<sup>32</sup> First consider column 2, which includes a measure of changes in interracial exposure over the 1970–80 decade. The results indicate that an increase in whites' exposure to African-Americans over the 1970–80 period increased the rate of antibusing events (over and above the effect of an SMSA's initial interracial exposure level). More concretely, raising whites' exposure to African-Americans from the first to third quartile levels over this decade increased the rate of antibusing activity over 200%.<sup>33</sup>

<sup>31</sup> It may be helpful here to discuss how this effect is calculated. The estimated effect on the rate is calculated by taking the natural log of the product of the coefficient of whites' isolation (13.6) and the level of this indicator at the first quartile (.842) and at the third quartile (.944; taken from table 1, col. 1). The effect over the interquartile range is estimated by multiplying the result by the first and third quartile level of the variable. The antilog of this number is the multiplier of the rate, which we can compare across this interquartile range. In column 1 of table 1, the coefficient of 13.6 indicates that as one goes from the first to third quartile the effect on the rate increases over fourfold. Another way to think about this effect is that the rate of antibusing activity is four times higher in the 15 SMSAs where whites are most isolated in 1970 than in the 15 SMSAs where whites are initially least isolated.

<sup>32</sup> Since cols. 2 and 3 each add the indicators of shift in isolation and interracial contact, the two comparisons with col. 1 directly test whether the addition of more variables in each case improves the fit of the model significantly. The difference between likelihood ratios of adjacent nested models in cols. 2 and 1, e.g., has a chi-square distribution with degrees of freedom equal to the number of constraints that have been freed. For example, a likelihood ratio test between cols. 1 and 2 calculates the difference between  $-297.0$  and  $-301.8$ . Twice this difference (9.6,  $df = 1$ ) is significant at the .05 level. Column 3 adds a measure of changes in whites' isolation (from any group). Similarly, we can calculate a likelihood ratio test between cols. 1 and 3. Twice this difference is 6.0, which is also significant at the .05 level ( $df = 1$ ). Thus, cols. 2 and 3 fit the data significantly better than the model in col. 1, so we focus our discussion on cols. 2 and 3.

<sup>33</sup> In this example from table 1, col. 2, the coefficient of change in exposure (57.1) indicates that as one goes from the first to the third quartile of whites' exposure to blacks, the effect on the rate doubles (or rises over 200%). Thus, although the changes in the interracial exposure index are small, they increase the rate significantly (table A1 lists the amount of change in exposure for all SMSAs).

A closer look at our results in table 1 suggests that those SMSAs where whites experienced less residential isolation (with other whites) and more exposure to African-Americans over the 1970–80 decade experienced significantly more antibusing protests than did those SMSAs that experienced either no change or a rise in residential isolation of whites. Though our regional stereotypes might suggest otherwise, these effects of exposure and isolation hold when the southern region is included as a control variable as well as when regional effects are omitted.

In general, whites' isolation level dropped over this period, but the effects were not uniform. Column 3 adds a measure of changes in whites' isolation. Those SMSAs that maintained higher levels of isolation (i.e., changed the least) had the lowest rates of antibusing activity, as anticipated. The estimates in column 3 imply that the rate of antibusing activity in cities where whites maintained their high levels of isolation (in the first, or lowest, quartile range of changes in isolation) was only half of what it was in cities where whites' isolation level declined more (comparing the first with the third quartile). The mean decline in residential isolation is  $-.0344$ , and the standard deviation is  $.0247$ . The parameter for the change in whites' isolation variable,  $-25.9$  in column 3, tells us that if the drop in whites' isolation level is one standard deviation away from the mean change in isolation then the rate of antibusing activity increases 190%. Thus, our results support the competition theory view that even small deviations in isolation and exposure rates for whites and blacks generate statistically significant increases in the rates of antibusing activity.<sup>34</sup>

Lieberson's (1980) analysis of racial segregation at the turn of the century suggests another way to explore the implications of these results. He argued that hostility and the resegregation of African-Americans in cities could be seen as the result of whites' desire to maintain a constant level of distance from African-Americans. What if there had been no increase in exposure of whites to African-Americans during the 1970s? Relative to the maximum observed change, communities with no increase

<sup>34</sup> Some have questioned our results because the absolute changes in residential isolation appear relatively small (and for some SMSAs, segregation levels actually rose). Whether changes in  $P^*$  seem large or small to us as analysts is not at issue here. What is more relevant is whether or not shifts in residential isolation are systematically related to the antibusing event rate in SMSAs. In other words, we ask whether a 25% or 50% or 75% change in the observed rate of interracial exposure systematically affects the rate of antibusing activity (see table A1 for the precise figures for each SMSA). Put simply, our results for shifts in whites' interracial exposure to blacks and for shifts in whites' isolation shown in table 1 imply that residential contact and isolation are significantly and systematically related to antibusing mobilization for a large number of SMSAs in the direction that we have hypothesized.

in interracial contact would have had a rate of antibusing activity that was one-eighth the size of those SMSAs with the maximum shift in interracial contact.<sup>35</sup>

The results in table 1 are consistent with our hypothesis that the rate would decline sharply as time passed since the previous event (of any kind). Indeed, the effect of duration is monotonic. Above we argued that contagion can be understood as an implication of a process of increasing the salience of ethnic and racial boundaries. That is, we posited that the effect of ethnic activity would be most potent just after an ethnic conflict or protest, as the media, public opinion surveys, and everyday conversations focus attention on highly dramatic instances of racial unrest. We also argued that over time these effects would dissipate. Put differently, in the one or two days immediately following an incident of ethnic or racial conflict, urban areas are most vulnerable to similar outbreaks of collective violence.

There is also evidence for a second type of contagion effect in those SMSAs that had an antibusing protest during the first few weeks in September (when tensions over busing were likely to run high). Evidently the fact that an SMSA witnessed such an event in its history during the month of September increased its chance of experiencing another antibusing event (more than if the first antibusing protest in an SMSA occurred during another month and more than if an SMSA had no antibusing protests).

The coincidence of the timing of antibusing protests with school openings should not be surprising, since most busing plans were implemented at the beginning of the academic calendar. Indeed, as table 1 shows, 37 subsequent events (or 28% of all 132 of the uncensored spells) occurred during the month of September of some year. But we see in table 1 that SMSAs with a prior history of volatile and racially polarized school-openings had rates of antibusing activity that were two and one-half times the rate in SMSAs without this history (in cols. 1, 2, and 3). Because of the regularity of the school calendar, antibusing activists can anticipate dates and organizational activities of school boards, parents, and teachers, thus allowing for communication and mobilization among potential antibusing recruits. We can also speculate that events surrounding particularly tumultuous school openings are recalled in the collective memory of a community. Such memories are probably reinforced and sharpened by retrospective news articles about antibusing protests and further in-

<sup>35</sup> The three SMSAs that experienced either no increase or a decrease in interracial exposure with blacks were Birmingham, Alabama, Paterson, New Jersey, and Philadelphia, Pennsylvania. In all other 57 SMSAs, whites experienced at least some minimal increase in residential contact with blacks over the 1970-80 decade.

tensified by local boards and teachers who face the beginning of the new school year with trepidation.

At first glance, being located in the South appears to raise rates of antibusing protests, as can be seen in column 1 of table 1. However, when the effect of increase in interracial contact is included, as it is in columns 2 and 3, the effect of southern location disappears. The results in column 3 suggest that changes in interracial exposure for whites in neighborhoods contribute to the rate even when the effects of the South (where whites and blacks have had higher rates of interracial residential exposure) are controlled. Our results underscore findings that indicate that structural patterns of initial levels of and changes in interracial exposure are more relevant for understanding race relations than are regional differences (Massey and Denton 1989).

*Sensitivity analysis.*—The above discussion examines only one kind of regional effect. Here we consider another plausible one that is related to the skewed distribution of antibusing protests (see table A1). Because only a handful of SMSAs had many antibusing protests, one natural question might be whether our analysis is overinfluenced by the large number of protests that occurred in Louisville, Chicago, New York, and Boston. In other words, one source of unobserved heterogeneity could be relabeled as “SMSA effects” that are related to some unmeasured features of those SMSAs with many events. For instance, since Boston’s SMSA contributed 48 out of the total of 132 events analyzed in table 1, it seemed reasonable to also explore whether there are specific sources of heterogeneity that are present in Boston or northeastern SMSAs.

Although it is generally believed that the Northeast (or Boston) opposed busing more vehemently than other regions, including dummy variables for regional effects in models did not alter our results in any of the models or functional forms that were examined with these data. We also conducted a sensitivity analysis for all SMSAs that disproportionately contributed to the antibusing movement: Boston, Louisville, Chicago, and New York (see table A1 for comparison with counts of antibusing protests from all SMSAs).<sup>36</sup> We found that including dummy variables for Louisville, Boston, New York, and Chicago in all of our models did not alter any effects (or their significance levels) reported here. In fact, although these SMSAs appear to be overly represented in the total number of antibusing protests, only the dummy variable indicating a Boston location was statistically significant (and positive).

<sup>36</sup> We thank an anonymous reviewer for suggesting this sensitivity analysis. Nevertheless, we think that making causal inferences from this analysis might be misleading, because in effect it places SMSAs with high rates of antibusing events on both sides of the equation. Thus, we mention these sensitivity findings only as additional support for the reported results.

*Effects of white lower middle and working class.*—There is some evidence for the argument that SMSAs with a larger white working-class population had higher rates of antibusing events (as predicted in hypothesis 6). The effect of the white working and lower class is positive in column 1 and it is positive and significant in columns 2 and 3 in table 1. Once minority composition, population size, and residential segregation patterns are taken into account, class composition (as indicated by the rate of whites in the lower middle and working class) is systematically related to antibusing protest.<sup>37</sup>

It might be useful here to compare the magnitude of class composition effects in the same manner to those found for residential exposure and isolation. In column 2 the coefficient indicating the effect of the proportion of lower-middle- and working-class residents in an SMSA is 11.2, which tells us that, compared to SMSAs in the lowest quartile, those in the highest quartile had rates of antibusing activity that were 192% higher. This suggests that the effect of class is nearly as potent as the effects of change in interracial exposure and contact. It also parallels many of the case studies that have claimed that leadership and support of the antibusing movement is based in white working-class communities.<sup>38</sup>

The positive effects of white working class on the rate of antibusing activity is also consistent with competition theory arguments as well as other class composition arguments suggested by James (1989).<sup>39</sup> Our re-

<sup>37</sup> Given the interrelationship of race and class segregation, one might expect multicollinearity to be a problem in these analyses. Yet, surprisingly, the correlation between most variables is quite low (See table A3). Only two variables are highly correlated: percentage of nonwhites in SMSAs in 1959 and whites' exposure to blacks in 1970. They are correlated at .79 for the 37 SMSAs used in table 3 and at .82 for the 60 SMSAs employed in table 1. This high correlation is to be expected since the percentage of nonwhites in SMSAs is used in the calculation of the exposure index. We decided to omit this variable based on this high correlation. We also conducted the same analysis shown in table 1 using the dissimilarity index measures applied to residential census tracts. The results are very similar to those shown in col. 3 of table 1. That is, SMSAs with declining levels of racial dissimilarity had significantly higher rates of antibusing protests. However, it is important to also note that the two measures are not equivalent: the exposure index is a measure of racial isolation while the dissimilarity index is a measure of the evenness of distribution of racial groups across some units, such as occupations or census tracts. Because our theoretical argument rests on forces of interracial contact and decline in isolation (measured here by the  $wP^*$  and  $wP_w^*$  indexes of interracial exposure and isolation respectively) and because our empirical investigations did not suggest otherwise, we use the exposure index.

<sup>38</sup> We also examined the effect of the proportion of affluent white residents to see if there were any class effects at the upper end of the spectrum. Neither the proportion of black nor white affluent residents affected the rate of antibusing activity significantly.

<sup>39</sup> Taylor (1986) would argue that the number of blacks in poverty would be more salient to whites' mobilization against school integration, because the presence of a larger black underclass in a metropolitan region would activate antibusing protest. The same models seen in tables 1, 2, and 3 were examined with the percentage of

sults suggest that collective action is affected by shifts in interracial contact in schools and neighborhoods as well as by class differences within SMSAs.

The other primary effects shown in table 1 are straightforward. As other scholars of racial unrest have documented, the most populous urban areas are more prone to racial unrest than are SMSAs with fewer residents. Second, we note that the year of the previous event has the expected negative effect and it is significant. That is, there is a temporal trend toward lower rates.

### School Desegregation Analysis

We next examine the effect of the initial level and of a change in the level of school segregation in the center city of an SMSA on the rate of antibusing events in 58 SMSAs during 1968–90 (see table 2). We turn first to the evidence on our key argument that both initial levels of segregation and the magnitude of increase in racial desegregation in schools should spark antibusing activity. Adding the measure of school desegregation to the model in column 1 supports this hypothesis.<sup>40</sup> The results in columns 2 and 3 both suggest that school desegregation from 1968 to 1976 significantly raised rates of antibusing activity and that these effects are net of the effects of minority proportions and initial segregation levels in these schools.

Again, the effect was strong in substantive terms. Comparing the first and third quartile of the observed declines in the segregation index, we find an eightfold difference in the rate. Alternatively, the coefficient for the effect of a decrease in school segregation (5.29 in col. 2) suggests that a decrease of one standard deviation (.238) from the mean level of school desegregation over 1968–76 (–.230) increased the antibusing event rate 3.5 times. In column 3, increasing the level of desegregation by one standard deviation increases the rate of antibusing activity by nearly threefold.

---

blacks in poverty (as well as with the percentage of blacks in the working class). Black poverty rate had no significant effects on the rate in any model examined. White poverty rate affected the rate of antibusing events only in col. 3. Nor did the overall poverty rate (of all groups), or growth in poverty (1959–69) have systematic effects on this rate.

<sup>40</sup> We note here that our results are extremely robust. These results for school desegregation in table 2 were unaltered (and often identical) in many parametric and nonparametric specifications, including Weibull, Gompertz, log-logistic, and other proportional hazard models. Models reported in tables 1–3 used the PROC LIFEREG procedures (with different specifications) found in the *SAS User's Guide: Statistics*, version 5 (SAS Institute 1985).

TABLE 2

EFFECTS OF SCHOOL DESEGREGATION AND FEDERAL-COURT-ORDERED BUSING ON  
RATE OF ANTIBUSING PROTESTS IN 58 SMSAs, 1968-90

	MODEL		
	1	2	3
Intercept .....	122.2*** (32.6)	121.7*** (35.5)	123.5*** (35.6)
ln(population), 1969 .....	.001 (.138)	.595** (.224)	.613** (.229)
Southern region .....	1.15*** (.303)	.789** (.328)	.884** (.343)
Proportion black in center city schools, 1968 .....	-2.76*** (.771)	1.85* (1.07)	1.76 (1.10)
Proportion black in subur- ban schools, 1968 .....	-4.27** (1.71)	-3.88** (1.63)	-3.90** (1.60)
White poverty rate, 1969 .....	-18.5* (8.98)	1.09 (10.0)	2.08 (9.95)
School opening had antibusing event .....	1.21*** (.241)	1.05*** (.239)	1.01*** (.239)
School segregation, center city, 1968 .....	.775 (1.21)	.835 (1.55)	.986 (1.61)
Decline in school segregation, center city, 1968-76 .....		5.29*** (.958)	4.51*** (.117)
Federally mandated school desegre- gation, center city .....			.467 (.395)
Duration:			
Less than 24 hours .....	10.4*** (.528)	10.3*** (.538)	10.3*** (.538)
1-2 days .....	10.2*** (.613)	9.90*** (.622)	9.84*** (.624)
3-7 days .....	8.82*** (.533)	8.55*** (.540)	8.50*** (.541)
8-30 days .....	7.30*** (.539)	7.15*** (.552)	7.10*** (.553)
2-5 months .....	5.77*** (.526)	5.58*** (.533)	5.55*** (.535)
6-12 months .....	3.90*** (.602)	3.91*** (.614)	3.88*** (.615)
1-5 years .....	3.27*** (.526)	3.34*** (.536)	3.26*** (.539)
Time since previous spell .....	-.064*** (.017)	-.070*** (.018)	-.071*** (.018)
Log likelihood .....	-354.6	-336.9	-336.2

NOTE.—Asymptotic SEs in parentheses; *N* (uncensored spells) = 144; significance measured by one-tailed *t*-tests.

\* *P* < .05.

\*\* *P* < .01.

\*\*\* *P* < .001.

As the work of James (1989) and others might suggest, the effect of a southern location is significant in all three columns in table 2. However, when these are compared to models without controls for southern location, desegregation effects remain just as strong. This means that desegregation raised the rate significantly, net of regional differences. Moreover, in separate equations that tested for a northeastern regional effect, we found no significant effect.

Next we consider the possibility that the federal source of desegregation affects the rate of antibusing activity. The results in column 3 are straightforward: although it is positive, the coefficient for federally mandated busing is not statistically significant. The pattern seen in table 2 suggests that antibusing activity is more sensitive to everyday interracial contact than to the threat implied by federally mandated integration plans.

As was the case in table 1, the baseline rate for the seven duration pieces indicates that an SMSA with more recent incidents of ethnic unrest had significantly higher rates of antibusing activity and that this effect declines sharply as time passes. The decline in the duration coefficients implies that the rate of antibusing events drops monotonically as time passes with no new ethnic disturbances. Nevertheless, a previous ethnic protest or conflict raises the rate of antibusing activity, and this effect persists for up to five years. Table 2 also suggests that larger SMSAs and SMSAs in the South have higher rates of antibusing activity, even when changes in school segregation levels and previous antibusing events are taken into account.

The results in table 2 for a historical measure of tumultuous school openings also parallel those reported in table 1. In both analyses, if the past event in an SMSA was both an antibusing event and it took place during the first weeks of school, then the chance that another antibusing protest would occur is significantly higher. Indeed, the rate is nearly three times higher in SMSAs that had an antibusing event during the month of September compared to an SMSA that witnessed more peaceful school openings.

Because the class composition measure is only available for a subset of SMSAs that also have school desegregation measures, we are limited to measures of white poverty in table 2 (but see table 3 for the relevant models that include white working class and school desegregation). Here our measure of class differences, indicated by the white poverty rate, is either negative or it is not significant. Black poverty rate had no significant effect either (models not shown). Taken together, these findings imply that the rate of antibusing events was greatest in large metropolitan regions that were desegregating their schools, regardless of poverty rates.

Neither the size of the African-American population in SMSAs nor the



size of this population in city and suburban schools measured separately has a positive effect on the rate of antibusing events. These findings for the effect of African-American proportions in city and suburban schools run counter to what most experts on desegregation would have expected (Orfield 1983; James 1989). Because the effect of African-American proportions in suburbs is negative (and always significant in table 2), our results raise doubts about the notion that a higher proportion of African-Americans in suburbs would intensify racial tensions in the center cities undergoing busing.

### Combined Residential Exposure and School Desegregation Analysis

Since residence determines school assignment in most regions of the United States, school segregation by race tends to reflect patterns of residential segregation (although they are not perfectly correlated; Orfield and Monfort 1988; James 1989). It is equally likely that changes in one will be reflected in changes in the other. Forces that affect this dynamic are complicated, and they involve legal residence requirements of school systems, socioeconomic factors, and patterns of racial hostilities that maintain high levels of segregation. Table 3 presents estimates of models that include the effects of both residential exposure and school segregation.<sup>41</sup>

The key comparisons are among the nested models in columns 2 and 3, which add the effects of school desegregation and federal mandates to the effects of initial and changing levels of interracial contact ( ${}_wP_b^*$ ) in the baseline model in column 1. The pattern of results in table 3 provides further evidence that school desegregation significantly provoked the antibusing movement over this period. The effects of decreasing school segregation are potent and significant in both columns 2 and 3. One way to illustrate this is to compare an observed effect of desegregation that is one standard deviation higher than the average change in segregation. If school segregation levels fall by just one standard deviation away from the mean decrease in segregation, the coefficient of 5.06 in column 2 indicates that the rate of antibusing activity rises 300% above that experienced in those center cities in which segregation dropped by only average amounts.

Since federal policies supporting residential desegregation and school desegregation coincided during the 1970–90 period, it makes sense to examine the effect of these processes on antibusing activity simulta-

<sup>41</sup> See table A1 for the 37 SMSAs with complete data on class composition, residential exposure, and school desegregation.

TABLE 3

EFFECTS OF RESIDENTIAL AND SCHOOL DESEGREGATION ON ANTIBUSING PROTESTS  
IN 37 SMSAs, 1970-90

	MODEL		
	1	2	3
Intercept .....	191*** (39.7)	208*** (44.3)	207*** (44.2)
ln(population), 1969 .....	.206 (.147)	.716** (.343)	.717** (.343)
Southern region .....	.452 (.457)	.654 (.492)	.656 (.492)
Proportion of whites in lower middle and working class .....	4.97 (3.83)	-6.40 (4.69)	-5.86 (7.81)
Whites' residential exposure to blacks ( $wP_t^*$ ), 1970 .....	-20.9*** (6.03)	.628 (6.83)	1.01 (19.2)
Change in whites' residential expo- sure to blacks, 1970-80 .....	24.1 (18.7)	14.1 (17.9)	14.7 (19.2)
School opening had antibusing event	1.04*** (.244)	.840*** (.243)	.838*** (.244)
School segregation, center city, 1968		-.968 (1.89)	-.926 (1.89)
Decline in school segregation, center city, 1968-76 .....		5.06*** (1.16)	4.90** (2.21)
Federally mandated school desegrega- tion, center city .....			.064 (.749)
Duration:			
Less than 24 hours .....	10.7*** (.584)	10.2*** (.618)	10.2*** (.620)
1-2 days .....	10.3*** (.658)	9.63*** (.690)	9.63*** (.690)
3-7 days .....	8.96*** (.589)	8.38*** (.622)	8.38*** (.623)
8-30 days .....	7.36*** (.598)	6.77*** (.634)	6.77*** (.635)
1-5 months .....	5.86*** (.591)	5.32*** (.614)	5.32*** (.614)
6-12 months .....	4.38*** (.690)	4.11*** (.708)	4.11*** (.708)
1-5 years .....	3.02*** (.582)	2.79*** (.616)	2.80*** (.616)
Time since previous spell .....	-.098*** (.022)	-.113*** (.023)	-.113*** (.023)
Log likelihood .....	-307.2	-292.9	-292.8

NOTE.—Asymptotic SEs in parentheses;  $N$  (uncensored spells) = 127; significance measured by one-tailed  $t$ -tests.\*  $P < .05$ .\*\*  $P < .01$ .\*\*\*  $P < .001$ .

neously. First, it is instructive to note that whites experienced an increase in interracial contact with blacks in all 37 SMSAs except Birmingham, Paterson, and Philadelphia (see table A1). School desegregation was also common; the majority of center cities in the 37 SMSAs in table 3 experienced a decline in school segregation by race.

Given the trend toward increased interracial contact experienced by whites, it may be useful to examine which SMSAs maintained high levels of racial separation in schools and neighborhoods. Nine center cities in SMSAs in table 3 either increased or had no decrease in their level of racial segregation in schools; these include Chicago, Cleveland, Jersey City, New York, Newark, Paterson, Philadelphia, Seattle, and Washington, D.C. (see table A1). Of these nine SMSAs that did not desegregate their schools, in only two did whites also experience less interracial exposure to blacks (Paterson and Philadelphia). Yet these patterns of racial polarization took place in only a few cities. This means that at the same time that the experience of school desegregation was becoming widespread, whites' exposure to African-Americans was also rising in most residential settings as well. Our point is that these general trends did not affect antibusing activity evenly across SMSAs.

Furthermore, given the educational context of antibusing protests, it is not surprising that school desegregation affected antibusing activity more than residential exposure did. When both are included in the models, school desegregation has a more potent effect on antibusing activity than does an increase in interracial exposure. School desegregation achieved by any means also had a more potent effect on antibusing activity than did federally implemented plans. The successful implementation of local school desegregation incited protests beyond the effects attributable to declines in whites' residential isolation and federally implemented desegregation policies.

Once other factors are added to the baseline model in column 1, initial levels of residential contact of whites with blacks do not affect the rate. Furthermore, none of the models show evidence that initial or changing levels of interracial exposure raised the rate of antibusing activity significantly. In all models where it is included, the key factor raising rates of antibusing activity is the decline in levels of racial segregation in schools (cols. 2 and 3). Again, federal intervention in school desegregation does *not* appear to raise the rate of antibusing events independently, once its effect on the magnitude of school desegregation is taken into account.

We note also that the pattern for the effects of duration dependence is exactly the same as we reported in previous tables. That is, our measure of duration dependence shows that the rate of antibusing activity declines as time elapses since the previous ethnic protest or conflict. Somewhat surprisingly, these effects are long lasting, suggesting that an SMSA's

pattern of past ethnic and racial unrest strongly influences the likelihood of an antibusing event, even after five years have passed. And, as before, SMSAs with a history of antibusing activity at the beginning of the school term have higher rates of antibusing events.

Interestingly, when only 37 SMSAs are analyzed, the proportion of whites who are lower middle and working class does not raise rates of whites' antibusing activity. The same holds true when white poverty rate is substituted for the working-class composition measure. Indicators of both white poverty and white working class have negative (but not significant) effects on the rate. These insignificant results for the white lower middle and working class in this table run counter to our competition argument as well as to most class-based theories.

Interestingly, the effect of southern location is insignificant in all three models (although it is always positive). Evidently, where school desegregation has been most effective, mobilization of protest against busing of African-American children takes place independent of regional differences.

## SUMMARY AND CONCLUSIONS

We began with the observation that integrationist policies designed to desegregate schools and neighborhoods coincided with the rise of antibusing activity in some (but not all) urban settings in America during the mid-1970s. We suggested that competition theory provides a useful way to causally link these two countervailing trends in race relations. Competition arguments hold that the mechanism underlying racial conflict involves both perceived and actual threats to dominance based in competition for scarce resources.

We tested this argument with data on school desegregation and residential exposure during the mid-1970s. Our results are straightforward. School desegregation sharply increased the rate of antibusing activity, even when the initial level of school segregation, initial residential exposure, the size of the SMSA, and its class composition are taken into account. Furthermore, we find that federally mandated desegregation plans did not independently raise rates of antibusing activity (i.e., net of the measurable structural changes in school segregation). These results undermine the grievance perspective that would predict that the imposition of federal policies provokes protests. Evidently, the anticipated loss of local control of schools is not as relevant to antibusing activity as are changes in the racial composition of schools over time. Instead the results point to the irony that where the federal government had the greatest success in desegregating schools, antibusing protests peaked.

Theoretically, we have attempted to reconcile two opposing and rele-

vant perspectives in the study of collective action by recasting grievance and structural arguments within a framework of ethnic or racial competition. We argued that the mechanism that underlies racial conflict involves both perceived and actual threats to whites' dominance over African-Americans. Such threats invoke fears that interracial contact and racial competition for scarce resources will rise even more. We think the evidence shows that (1) increases in whites' exposure to African-Americans, (2) decreases in school segregation, and (3) decreases in whites' residential isolation levels raised rates of antibusing activity by whites, but (4) whether desegregation was federally mandated did not affect the rate of antibusing activity (net of other effects included in the model). In short, indicators of shifts in school desegregation and residential exposure help to explain the whole pattern of results reported here. This pattern suggests that, although in most cities whites experienced some increase in residential exposure to blacks in neighborhoods and schools, antibusing activity erupted more frequently in settings where this change was greatest (holding constant initial levels of residential segregation). Our combined analysis of residential and school desegregation suggests that the impact of integration on unrest depends upon the amount of change that takes place, regardless of the initial levels of school and neighborhood segregation.

The conventional view that federal-court-ordered busing sparked the grievances that led to antibusing protest does not hold up under scrutiny. Instead, it appears that an urban area's history of racial events, interracial exposure in neighborhoods, residential isolation of whites, and the amount of change in interracial contact in schools intensified the rate of white mobilization against busing.

We think that, in part, attempts to settle the debate between resource mobilization or political process models and grievance models so far have been unsatisfactory because few studies have evaluated in the same study the theoretical arguments embedded in these models. Here we have included indicators of both the actual level of change in segregation that occurred over the period and an indicator of whether or not desegregation was federally mandated prior to the start of this study. Shifts in levels of school segregation raised rates of antibusing activity more than shifts in residential segregation did. Our results show that antibusing activity was far more sensitive to changes in school desegregation than it was to the fears raised by threats to local autonomy from a federal authority. Such results can be interpreted as support for competition processes indicated by changes in interracial contact in urban settings.

## APPENDIX

TABLE A1  
DATA FOR SMSAS IN ANALYSIS

SMSA	<i>N</i> of Antibusing Events, 1968-90	$\bar{w}P^*_t$ , 1970	Change in $\bar{w}P^*_t$ , 1970-80	<i>D</i> Index, 1968	Change in <i>D</i> , 1968-76
Albany-Schenectedy-Troy .....	0	.023	.005		
Albuquerque .....	0	.012	.004		
Anaheim-Garden Grove .....	0	.004	.006		
Atlanta .....	2	.061	.029	.910	-.170
Augusta .....	3			.930	-.550
Austin .....	0	.039	.020		
Bakersfield .....	0	.017	.009		
Baltimore .....	0	.067	.023	.820	-.140
Birmingham .....	1	.227	-.026	.920	-.120
Boston .....	48	.017	.005	.730	-.410
Buffalo .....	0	.024	.011	.700	-.110
Charleston .....	0			.880	-.300
Charlotte .....	1			.730	-.580
Chattanooga .....	2			.860	-.240
Chicago .....	45	.027	.009	.900	.020
Cincinnati .....	0	.049	.013	.660	-.020
Cleveland .....	3	.032	.007	.890	.010
Columbus, Ohio .....	1	.046	.019		
Corpus Christi .....	0	.009	.006		
Dallas-Fort Worth .....	0	.033	.018	.915	-.355
Dayton .....	0	.031	.018	.870	-.650
Denver-Boulder .....	0	.011	.015	.830	-.440
Detroit .....	7	.047	.007	.770	-.140
El Paso .....	0	.015	.017		
Flint .....	0			.630	-.040
Fort Lauderdale .....	0	.016	.018		
Fresno .....	0	.014	.010		
Gary-East Chicago .....	0	.028	.010	.870	-.050
Greensboro-Salem .....	0	.097	.024	.840	-.610
Greenville-Spartanburg .....	1			.850	-.690
Hartford .....	0			.670	.070
Houston .....	0	.070	.008	.920	-.150
Indianapolis .....	0	.049	.008	.770	-.300
Jackson, Miss. ....	0			.950	-.480
Jersey City .....	0	.051	.002	.620	.070
Kansas City .....	0	.033	.012	.740	-.120
Los Angeles-Long Beach .....	2	.023	.015	.900	-.090
Louisville .....	20	.043	.016	.800	-.580
Macon .....	0			.820	-.290
Memphis .....	2	.132	.036	.950	-.390
Miami .....	1	.041	.033		
Milwaukee .....	1	.041	.033	.850	-.300
Minneapolis .....	0	.009	.007		

TABLE A1

(Continued)

SMSA	N of Antibusing Events, 1968-90	$\omega P_b^*$ , 1970	Change in $\omega P_b^*$ , 1970-80	D Index, 1968	Change in D, 1968-76
Mobile .....	0			.890	-.310
Montgomery .....	0			.940	-.490
Nashville-Davidson .....	1	.064	.022	.820	-.390
Nassau-Suffolk .....	0	.026	.004		
New Haven .....	0			.540	.060
New Orleans .....	1	.120	.021	.830	-.070
New York .....	27	.051	.005	.640	-.060
Newark .....	0	.056	.008	.790	.040
Newport News-Hampton .....	0			.890	-.600
Norfolk-Virginia Beach .....	1	.102	.053	.870	-.665
Oklahoma City .....	0	.019	.025	.890	-.630
Omaha .....	0			.790	-.490
Orlando .....	0			.840	-.300
Paterson-Passaic .....	0	.049	-.006	.530	.070
Pensacola .....	0			.800	-.350
Philadelphia .....	0	.062	-.000	.750	.060
Phoenix .....	0	.012	.006		
Pittsburgh .....	0	.034	.003	.710	-.140
Portland .....	0	.012	.005		
Providence .....	0	.016	.003		
Riverside-San Bernardino .....	0	.026	.011		
Richmond .....	5			.870	-.570
Rochester, N.Y. ....	2	.032	.015		
Rochester, Minn. ....	0			.530	-.020
Sacramento .....	0	.030	.013		
St. Louis .....	0	.043	.012	.880	-.030
Salt Lake City-Ogden .....	0	.005	.002		
San Antonio .....	0	.021	.021	.840	-.180
San Diego .....	0	.016	.012	.690	-.010
San Francisco-Oakland .....	2	.041	.012	.655	-.225
San Jose .....	0	.012	.014		
Seattle-Everett .....	0	.013	.008	.650	.000
Tampa-St. Petersburg .....	1	.046	.005		
Toledo .....	0			.780	-.130
Tucson .....	0	.017	.048		
Washington, D.C. ....	6	.070	.048	.790	.070
Wilmington .....	1			.530	-.060
Youngstown-Warren .....	0			.650	.080

NOTE.—The 60 SMSAs that have values for  $\omega P_b^*$  (residential exposure) are analyzed in table 1; the 58 SMSAs that have values for  $D$  (school segregation) are analyzed in table 2; the 37 SMSAs for which both values are available are analyzed in table 3.

TABLE A2

## MEANS FOR RESIDENTIAL AND SCHOOL DESEGREGATION COVARIATES

Variable	Mean	SD	Minimum	Maximum
ln(population), 1969 .....	14.25	.76	13.17	16.25
Proportion black, SMSA, 1969 .....	.16	.08	.05	.38
Proportion black, center city schools, 1968 .....	.45	.19	.12	.94
Proportion black, suburban schools, 1968 .....	.08	.09	.00	.38
School segregation, 1968 .....	.80	.10	.53	.95
White poverty rate, 1969 .....	.08	.02	.05	.19
Black poverty rate, 1969 .....	.27	.06	.16	.44
Whites' residential isolation, 1970 .....	.90	.06	.70	.96
Whites' residential exposure to blacks, 1970 .....	.05	.04	.01	.23
Southern region .....	.40	.50	.00	1.00
Proportion of whites in lower middle or working class, 1970 .....	.17	.04	.07	.23
Change in whites' residential isolation, 1970-80 ....	-.03	.02	-.11	.02
Change in whites' residential exposure to blacks, 1970-80 .....	.01	.01	-.02	.05
Decline in school segregation, center city, 1968-76 .....	.19	.23	.66	-.07
Federally mandated school desegregation, center city .....	.46	.50	.00	1.00

NOTE.— $N = 37$ .



TABLE A3  
CORRELATIONS FOR RESIDENTIAL AND SCHOOL DESEGREGATION COVARIATES

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. ln(population), 1969 .....	...														
2. Proportion black, SMSA, 1969 ...	-.04 (.80)														
3. Proportion black, center city schools, 1968 .....	.18 (.30)	.52 (.00)													
4. Proportion black, suburban schools, 1968, .....	-.28 (.09)	.82 (.00)	.30 (.07)												
5. School segregation, 1968 .....	-.16 (.35)	.50 (.00)	.07 (.69)	.38 (.02)											
6. White poverty rate, 1969 .....	-.32 (.05)	-.05 (.74)	-.31 (.06)	.19 (.26)	.09 (.60)										
7. Black poverty rate, 1969 .....	-.43 (.01)	.53 (.00)	-.03 (.83)	.66 (.00)	.49 (.00)	.50 (.00)									
8. Whites' residential isolation ( $wP^*$ ), 1970 .....	.05 (.77)	-.28 (.09)	-.06 (.71)	-.41 (.01)	-.07 (.68)	-.72 (.00)	-.29 (.08)								
9. Whites' residential exposure to blacks ( $wP^*$ ), 1970 .....	-.27 (.11)	.79 (.00)	.30 (.07)	.83 (.00)	.28 (.09)	.15 (.36)	.62 (.00)	-.40 (.01)							

10. Southern region .....	-.38 (.02)	.56 (.00)	.07 (.66)	.52 (.00)	.55 (.00)	.36 (.03)	.69 (.00)	-.29 (.09)	.52 (.00)
11. Proportion of whites in lower middle or working class, 1970 ....	-.56 (.00)	.02 (.91)	-.37 (.02)	.39 (.02)	.04 (.80)	.68 (.00)	.63 (.00)	-.32 (.05)	.34 (.04)
12. Change in whites' residential iso- lation, 1970-80 .....	-.08 (.64)	-.10 (.54)	-.10 (.56)	-.05 (.74)	.00 (.98)	-.13 (.44)	.15 (.36)	.35 (.03)	.16 (.35)
13. Change in whites' residential ex- posure to blacks, 1970-80 .....	-.21 (.21)	.34 (.04)	.11 (.51)	.25 (.13)	.33 (.04)	.04 (.79)	.21 (.22)	.04 (.80)	.05 (.78)
14. Decline in school segregation, cen- ter city, 1968-1976 .....	-.48 (.00)	.01 (.51)	-.56 (.00)	.17 (.32)	.40 (.02)	.19 (.25)	.34 (.04)	.14 (.39)	.05 (.77)
15. Federally mandated school deseg- regation, center city .....	-.37 (.02)	.23 (.12)	-.39 (.02)	.25 (.13)	.34 (.04)	.08 (.64)	.38 (.02)	.05 (.77)	.30 (.07)
								.21 (.21)	.34 (.04)
								.18 (.27)	.23 (.17)
								.78 (.00)	.78 (.00)

NOTE.—Probability in parentheses.

REFERENCES

- Aalen, Odd. 1978. "Nonparametric Inference for a Family of Counting Processes." *Annals of Statistics* 6:701-26.
- Armor, David. 1980. "White Flight and the Future of School Desegregation." Pp. 187-229 in *School Desegregation: Past, Present, and Future*, edited by Walter G. Stephan and Joseph R. Feagin. New York: Plenum Press.
- Barth, Fredrik. 1956. "Ecologic Relationships of Ethnic Groups in Swat, North Pakistan." *American Anthropologist* 58:1079-89.
- , ed. 1969. *Ethnic Groups and Boundaries*. Boston: Little, Brown.
- Blalock, Hubert. 1967. *Toward a Theory of Minority-Group Relations*. New York: Wiley.
- Blossfeld, Hans-Peter, Alfred Hamerle, and Karl Ulrich Mayer. 1988. *Event History Analysis*. Hillsdale, N.J.: Lawrence Erlbaum.
- Bobo, Lawrence. 1983. "Whites' Opposition to Busing: Symbolic Racism or Realistic Group Conflict." *Journal of Personality and Social Psychology* 45:1196-1210.
- Bureau of the Census. 1975. "Poverty Status in 1969 of Persons and Families for States, SMSAs, Central Cities, and Counties." *1970 Census of the Population*, vol. 1. Supplementary Report PC (S1)-105. U.S. Department of Commerce. Washington, D.C.: Government Printing Office.
- Burstein, Paul. 1985. *Discrimination, Jobs, and Politics: The Struggle for Equal Employment Opportunity in the United States since the New Deal*. Chicago: University of Chicago Press.
- Carroll, Glenn R., and Yangchung Paul Huo. 1988. "Organizational and Electoral Paradoxes of the Knights of Labor." Pp. 175-94 in *Ecological Models of Organizations*, edited by Glenn R. Carroll. Cambridge, Mass.: Ballinger Press.
- Chandler, Mittie O. 1992. "Obstacles to Housing Integration Program Efforts." Pp. 286-305 in *The Metropolis in Black and White*, edited by George C. Galster and Edward Hill. New Brunswick, N.J.: Rutgers University Press.
- Clark, William A. V. 1987. "School Desegregation and White Flight: A Reexamination and Case Study." *Social Science Research* 16:211-28.
- Coleman, James S., Sara D. Kelly, and John A. Moore. 1975. "Trends in School Segregation" Urban Institute Paper no. 722-03-01. Washington, D.C.: Urban Institute.
- Cox, D. R., and D. Oakes. 1984. *Analysis of Survival Data*. London: Chapman & Hall.
- Duncan, Otis Dudley, and Beverly Duncan. 1957. *The Negro Population of Chicago: A Study of Residential Secession*. Chicago: University of Chicago Press.
- Durkheim, Émile. (1893) 1947. *The Division of Labor in Society*. Glencoe, Ill.: Free Press.
- Farley, Reynolds J. 1977. "Residential Segregation in Urbanized Areas of the United States in 1970." *Demography* 14:497-518.
- Formisano, Ronald P. 1991. *Boston against Busing*. Chapel Hill: University of North Carolina Press.
- Gould, Roger. 1991. "Multiple Networks and Mobilization in the Paris Commune, 1871." *American Sociological Review* 56:716-29.
- Hamblin, Robert, R. B. Jacobsen, and J. L. L. Miller. 1973. *A Mathematical Theory of Social Change*. New York: Wiley.
- Hannan, Michael T. 1989. "Age Dependence in the Mortality of National Labor Unions: Comparisons of Parametric Models." *Journal of Mathematical Sociology* 14:1-30.
- James, David R. 1989. "City Limits on Racial Equality: The Effects of City-Suburb Boundaries on Public School Desegregation, 1968-1976." *American Sociological Review* 54:963-85.

- James, David R., and Karl E. Taeuber. 1985. "Measures of Segregation." *Sociological Methodology* 15:1-32.
- Jenkins, J. Craig. 1983. "Resource Mobilization Theory and the Study of Social Movements." *Annual Review of Sociology* 9:527-53.
- Kalbfleisch, John D., and Ross L. Prentice. 1980. *Statistical Analysis of Failure Time Data*. New York: Wiley.
- Kirp, David L. 1982. *Just Schools*. Berkeley and Los Angeles: University of California Press.
- Kluger, Richard. 1977. *Simple Justice*. New York: Vintage.
- Leigh, W. A., and J. D. McGhee. 1986. "A Minority Perspective on Residential Racial Integration." Pp. 31-42 in *Housing Desegregation and Federal Policy*, edited by John M. Goering. Chapel Hill: University of North Carolina Press.
- Liebersohn, Stanley. 1961. "A Societal Theory of Race Relations." *American Sociological Review* 26:902-8.
- . 1980. *A Piece of the Pie: Blacks and White Immigrants since 1880*. Berkeley and Los Angeles: University of California Press.
- Liebersohn, Stanley, and Donna Carter. 1982. "Temporal Changes and Urban Differences in Residential Segregation: A Reconsideration." *American Journal of Sociology* 88:296-310.
- Lo, Clarence Y. H. 1982. "Countermovements and Conservative Movements in the Contemporary U.S." *Annual Review of Sociology* 8:107-34.
- Massey, Douglas S., and Nancy A. Denton. 1988. "The Dimensions of Residential Segregation." *Social Forces* 67:281-315.
- . 1989. "Hypersegregation in U.S. Metropolitan Areas: Black and Hispanic Segregation along Five Dimensions." *Demography* 26:373-92.
- . 1993. *American Apartheid: Segregation and the Making of the Underclass*. Cambridge, Mass.: Harvard University Press.
- Massey, Douglas S., and Mitchell L. Eggers. 1990. "The Ecology of Inequality: Minorities and the Concentration of Poverty, 1970-1980." *American Journal of Sociology* 95:1153-88.
- McAdam, Doug. 1982. *Political Process and the Development of Black Insurgency*. Chicago: University of Chicago Press.
- McAdam, Doug, John D. McCarthy, and Mayer Zald. 1988. "Social Movements." Pp. 695-738 in *Handbook of Sociology*, edited by N. J. Smelser. Beverly Hills, Calif.: Sage.
- McCarthy, John D., Clark McPhail, and Jackie Smith. 1993. "Images of Protest: Estimating Selection Bias in Media Coverage of Washington Demonstrations, 1982, 1991." Paper presented at the annual meeting of the American Sociological Association, Miami.
- McPhail, Clark, and Robert Wohlstein. 1983. "Individual and Collective Behaviors within Gatherings, Demonstrations, and Riots." *Annual Review of Sociology* 9: 579-600.
- Minkoff, Debra. 1993. "The Organization of Survival: Women's and Racial-Ethnic Voluntarist and Activist Organizations, 1955-1985." *Social Forces* 71:887-908.
- National Advisory Commission on Civil Disorders. 1968. *Report of the National Advisory Commission on Civil Disorders*. New York: Bantam.
- Nielsen, François. 1980. "The Flemish Movement in Belgium after World War II: A Dynamic Analysis." *American Sociological Review* 45:76-94.
- . 1985. "Ethnic Solidarity in Modern Societies." *American Sociological Review* 50:133-45.
- Office for Civil Rights. 1968. *Directory of Public Elementary and Secondary School Districts and Schools in Selected Districts: Enrollment and Staff by Racial/Ethnic Group*. U.S. Department of Health, Education, and Welfare. Washington, D.C.: Government Printing Office.

- . 1979. *Directory of Public Elementary and Secondary School Districts and Schools in Selected Districts: School Year 1976–1977*, vols. 1 and 2. U.S. Department of Health, Education, and Welfare. Washington, D.C.: Government Printing Office.
- Olzak, Susan. 1983. "Contemporary Ethnic Mobilization." *Annual Review of Sociology* 9:355–74.
- . 1989. "Analysis of Events in Studies of Collective Action." *Annual Review of Sociology* 15:119–41.
- . 1992. *The Dynamics of Ethnic Competition and Conflict*. Stanford, Calif.: Stanford University Press.
- Olzak, Susan, and Joane Nagel. 1986. *Competitive Ethnic Relations*. Orlando, Fla.: Academic Press.
- Olzak, Susan, and Elizabeth West. 1990. "Ethnic Conflict and Protest and the New Immigration in the United States." Technical Report no. 86-19. Cornell University, Department of Sociology.
- . 1991. "Ethnic Conflict and the Rise and Fall of Ethnic Newspapers." *American Sociological Review* 56:458–74.
- Orfield, Gary. 1978. *Must We Bus? Segregated Schools and National Policy*. Washington, D.C.: Brookings Institution.
- . 1983. *Public School Desegregation in the United States, 1968–1980*. Washington, D.C.: Joint Center for Political Studies.
- Orfield, Gary, and Franklin Monfort. 1988. *Racial Change and Desegregation in Large School Districts: Trends through the 1986–1987 School Year*. National School Desegregation Project. Washington, D.C.: National School Boards Association.
- Paige, Jeffrey M. 1971. "Political Orientation and Riot Participation." *American Sociological Review* 36:810–20.
- Rossell, Christine. 1990. *The Carrot or the Stick for School Desegregation Policy*. Philadelphia: Temple University Press.
- SAS Institute. 1985. *SAS Users' Guide: Statistics*, version 5. 1st ed. Cary, N.C.: SAS Institute.
- Schuman, Howard, and Lawrence Bobo. 1988. "Survey-based Experiments on White Racial Attitudes toward Residential Integration." *American Journal of Sociology* 94:273–99.
- Schuman, Howard, Charlotte Steeh, and Lawrence Bobo. 1987. *Racial Attitudes in America*. Cambridge, Mass.: Harvard University Press.
- See, Katherine O'Sullivan, and William Julius Wilson. 1988. "Race and Ethnicity." Pp. 243–90 in *Handbook of Sociology*, edited by Neil J. Smelser. Beverly Hills, Calif.: Sage.
- Sheehan, J. Brian. 1984. *The Boston School Integration Dispute*. New York: Columbia University Press.
- Sigelman, Lee, and Susan Welch. 1991. *Black Americans' Views of Racial Inequality: The Dream Deferred*. New York: Cambridge University Press.
- Snow, David A., E. Burke Rochford, Jr., Steven K. Worden, and Robert D. Benford. 1986. "Frame Alignment Processes, Micromobilization, and Movement Participation." *American Sociological Review* 51:464–81.
- Snyder, David, and Charles Tilly. 1972. "Hardship and Collective Violence in France, 1830–1960." *American Sociological Review* 37:312–20.
- Spilerman, Seymour. 1970. "The Causes of Racial Disturbances: A Comparison of Alternative Explanations." *American Sociological Review* 35:627–49.
- . 1971. "The Causes of Racial Disturbances: Tests of an Explanation." *American Sociological Review* 36:427–42.
- . 1976. "Structural Characteristics of Cities and the Severity of Racial Disorders." *American Sociological Review* 41:771–93.

- Stinchcombe, Arthur, and D. Garth Taylor. 1980. "On Democracy and School Integration." Pp. 157-86 in *School Desegregation: Past, Present, and Future*, edited by Walter G. Stephan and Joe R. Feagin. New York: Plenum Press.
- Tarrow, Sidney. 1991. *Struggle, Politics, and Reform: Collective Action, Social Movements, and Cycles of Protest*. Ithaca, N.Y.: Western Societies Program.
- Taylor, D. Garth. 1986. *Public Opinion and Collective Action: The Boston School Desegregation Conflict*. Chicago: University of Chicago Press.
- Tilly, Charles. 1978. *From Mobilization to Revolution*. Reading, Mass.: Addison-Wesley.
- Tuma, Nancy Brandon, and Michael T. Hannan. 1984. *Social Dynamics*. Orlando, Fla.: Academic Press.
- Tuttle, William M. 1970. *Race Riot: Chicago in the Red Summer of 1919*. New York: Athenaeum.
- Useem, Bert. 1980. "Solidarity Model, Breakdown Model, and the Boston Anti-Busing Movement." *American Sociological Review* 45:357-96.
- . 1984. "Center-Periphery Conflict: Elite and Popular Involvement in the Boston Anti-Busing Movement." *Research in Social Movements, Conflict and Change* 6:271-91.
- Walsh, Edward J. 1981. "Resource Mobilization and Citizen Protest in Communities around Three Mile Island." *Social Problems* 29:1-21.
- Welch, Finis, and Audrey Light. 1987. *New Evidence on School Desegregation*. Prepared for the United States Commission on Civil Rights. Clearinghouse Publication 9292. Los Angeles: Unicon Research Corporation.
- White, Michael J. 1986. "Segregation and Diversity Measures in Population Distribution." *Population Index* 52:198-221.
- Wilson, William J. 1978. *The Declining Significance of Race*. Chicago: University of Chicago Press.

## Book Reviews

*Cultural Complexity: Studies in the Social Organization of Meaning.* By Ulf Hannerz. New York: Columbia University Press, 1992. Pp. ix + 347.

Wendy Griswold  
*University of Chicago*

Ulf Hannerz, the Swedish social anthropologist well known for his superb ethnographic study of a Washington ghetto (*Soulside* [New York: Columbia University Press, 1969]) as well as other penetrating explorations in urban anthropology, has written a book that is intended to change the ways in which we think about culture. The old assumptions about culture are all wrong for today, he argues in *Cultural Complexity*, but the new ones are not much better. After briskly dispatching both, Hannerz sets forth his own principles for the analysis of complex cultures and then applies them to two sites of particular complexity: cities and the global cultural system. This book is nothing if not ambitious.

Hannerz suggests that social science's traditional view of culture—rooted in anthropological studies of simple, relatively undifferentiated societies characterized by “massive intersubjectivity” and redundancy, in which “I know, and I know that everybody else knows, and everybody else knows that everybody else knows” (p. 42)—cannot adequately address complex cultures. By “complex cultures” Hannerz refers to contemporary cultures in the developed world and sites of intense cultural exchange in the developing world (all cultures, he claims, are more complex than they used to be). Complex cultures are characterized by dramatic asymmetries in the distribution of knowledge, leading to different perspectives and increased difficulties in communication (“I know, but I don't know if you know, and I don't know if you know that I know,” and so forth). All of this is familiar enough, but Hannerz is interested in understanding the impact this situation has on the social distribution of meaning. Unlike poststructuralists, Hannerz regards meaning as the chief object of cultural analysis, but in this book he focuses less on ideational content and more on how meanings are expressed and distributed.

One way of thinking of complex cultures that has become popular in these politically sensitive times is to speak of a “cultural mosaic,” a sort of aestheticization of multiculturalism that is attractive to the liberal minded. Poppycock, says Hannerz; the mosaic image is static, suggests sharp and impenetrable boundaries between component cultures, and denies the very asymmetries of meaning distribution, not to mention power, that characterize complex cultures in the first place. Instead,

Permission to reprint a book review printed in this section may be obtained only from the author.

cultures must be understood in terms of the flows of meaning within and among four organizational frameworks: the form of life (involving interactions at the most local level), the state, the market, and explicit social/cultural movements. ("Frameworks" strikes me as the wrong metaphor; what Hannerz is describing sounds more like canals and irrigation ditches, some of which leak and all of which are frequently rechanneled by human and natural intervention.) Meaning flowing through the frameworks can be analyzed along six dimensions—baseline, input mode, input quantity, scale, material resource linkage, and power linkage—that may be relatively symmetrical (as in simple societies) or asymmetrical (as in complex ones).

Hannerz's formal language is not especially inviting, and he saves his examples for the last part of the book. I will use Hannerz's example of San Francisco during the Beat Era to illustrate these meaning flows. Here the primary organizational framework would be a cultural movement, but one that was fostered via form-of-life interactions (e.g., in North Beach coffee houses and Kenneth Rexroth's apartment) and that received flows of meaning that were to some considerable degree channeled by the state (many of San Francisco's postwar intellectuals had been in western internment camps for conscientious objectors; the government's unsuccessful effort to censor Ginsberg's *Howl* gave Beat poetry free publicity) and by the market (the City Lights Bookstore and local galleries both provided venues for intellectual form-of-life interactions and generated the wherewithal). Poets, musicians, and artists came to the city with comparable baselines of meaning, involving the rejection of much of the postwar American culture as "square," but with different input modes (media). While the various types of cultural creative agents had roughly comparable input quantity among the hip, radio and recordings allowed for asymmetries of scale among the input modes; jazz musicians, in San Francisco as elsewhere, reached far more people than did either poets or visual artists. This asymmetry meant that the meaning flow was stronger from jazz to the other arts than it was in the reverse, prompting painters to attempt to reproduce jazz rhythms and spontaneity in their abstract-expressionist painting and poets to read their poetry to jazz accompaniment (a cultural innovation that Hannerz calls "dubious"). The intense cultural creativity of the Beat Era in San Francisco (and Greenwich Village) was the result not simply of asymmetries but of contact among asymmetrically endowed cultural creators.

If Hannerz's frameworks and dimensions are more than description with fancy labels, they must be able to distinguish between greater and lesser sites of cultural complexity. After all, any city encompasses more heterogeneity than one finds in the countryside, but not all cities are culturally generative to any remarkable extent. What made his three examples—postwar San Francisco, Vienna at the turn of the century, and Calcutta during the 19th-century Bengal Renaissance—especially productive of new meanings? The answer seems to be not just multiple cultures or asymmetries along the six dimensions—these are necessary



but are true of many (not all) modern cities—but an urban social organization that allows for meanings to flow from one cultural site to another in what Hannerz calls the “urban swirl.” A contrasting example might be early and mid-20th-century Los Angeles, which was characterized by an immense asymmetry of scale in cultural production (the domination of the film industry) organized for a national market and by a combination of asymmetry of material resources, power linkages, and a real estate market that encouraged multiple ghettoization (the mosaic image may be more apt for Los Angeles than most places). Both of these inhibited meaning generation at the city level, notwithstanding the influence of Hollywood globally. Hence San Francisco made culture, while Los Angeles just made money.

Readers who similarly come up with examples in order to assess the value of Hannerz’s frameworks and dimensions will be richly rewarded, but it has to be said that the organization of *Cultural Complexity*, with the first two-thirds formal analytic principles and the last one-third examples, makes for hard slogging. Furthermore, lapses in editing are irritating and liable to impede the book’s own meaning flow. One example: in a footnote to a reference to the “electronic theater state,” Hannerz remarks that “the name of one of the greatest recent performers in the politics of symbolism indeed turns out to be an anagram of *Negara*” (p. 282). This observation is cute, but nowhere is the concept of theater state explained and Clifford Geertz’s *Negara* is not even included in the references. *Cultural Complexity* gives the impression that it was written for those already in the know. Both this quality and its organization are off-putting and may limit *Cultural Complexity*’s usefulness in the classroom. Notwithstanding its awkward structure, however, it would be a pity if this book did not find a wide audience, for Hannerz’s analytic strategies constitute one of the most intelligent attempts yet made to approach contemporary culture with the right tools.

*Cultivating Differences: Symbolic Boundaries and the Making of Inequality.* Edited by Michèle Lamont and Marcel Fournier. Chicago: University of Chicago Press, 1992. Pp. xvii + 346.

Tia DeNora  
*University of Exeter*

As the poet Baudelaire once put it, “We walk through symbols all the time.” Culture is the medium through which our social being occurs. It facilitates action and experience, but it also constrains it. To make this observation is not only to recognize that culture constrains what a given individual can do; simultaneously, culture constrains *who* can do what. Thus, insofar as agents can be close to or distanced from cultural competences, forms of knowledge and manners, cultural practice is inevitably about boundaries. Culture is always inevitably inclusive and exclusive.

*Cultivating Differences* explores how and to what extent cultural practices map social hierarchies of class, ethnicity, and gender. Its all-star cast of writers approaches this issue in a variety of interrelated contexts. The result is a systematic examination of the topic of culture and social hierarchy that, as a volume, adds up to more than the sum of its four-part structure.

Part 1 develops and critically assesses the character of distinction in modern life. Essays by Paul DiMaggio, Diana Crane, Joseph Gusfield, and Nicola Beisel focus on the emergence and institutionalization of cultural hierarchies and canons of taste. Part 2 elaborates these issues through empirical attempts to debate and fine tune current conceptualizations of culture as a tool for boundary creation and maintenance. For example, the idea that movement from one taste culture to another requires, as Bourdieu puts it, the correct "instruments of appropriation" is challenged by David Halle, who suggests that, at least in the United States, many consumers of abstract art ignore specialist modes of appropriation in favor of the perceived decorative and representational allusions of abstract works. The idea of preferred or "legitimate" cultural readings is therefore not sustainable in the face of the creative and often ad hoc character of consumer practice. If abstract art is also about decoration, Halle suggests, then the gap between those who like abstract art and those who don't "looks less like a chasm than a crack" (p. 146). Do Halle's findings thus imply that artistic tastes are not simultaneously signifying practices for social exclusion? Other articles in part 2 suggest the Bourdieuan hypothesis is alive and well, though in need of refinement. Vera Zolberg explains why the "democratic goals" of art museums often remain unmet, while Richard Peterson and Albert Simkus document the ways in which musical tastes map onto status in a pyramidal structure.

If culture is the expressive medium of social difference and social hierarchy, it follows that we should be able to explore the ways in which tastes, practices, and objects provide resources for doing boundary work. This is the point of part 3, where culture and its attendant status signals provide the milieu for day-to-day activity. As Cynthia Fuchs Epstein puts it, boundaries define the parameters of motivation and behavior in daily life and in the life course. Her article builds upon and exemplifies this point through an exploration of the cultural bases of occupational segregation along gender lines. Finally, part 4 takes up the question of cultural exclusion and the polity. Jeffrey Alexander discusses the symbolic dimension and discourse of "civil society," and Alan Wolfe examines how to negotiate the tension between universal rights and specific differences.

In sum, this volume can be read as representing current U.S. sociological thinking on the issue of cultural practice and social hierarchy. Among the possible avenues for advancing this perspective are, as Beisel puts it, the idea of cultural production and mobilization as characterized by autonomy; cultural hierarchies do not simply reflect structural ones. In

this regard, *Cultivating Differences* makes a compelling case for the power of culture and the culture of power both in the sociological perspective and in social life.

*Pious Passion: The Emergence of Modern Fundamentalism in the United States and Iran.* By Martin Riesebrodt. Translated by Don Reneau. Berkeley and Los Angeles: University of California Press, 1993. Pp. 262.

Steve Bruce  
*University of Aberdeen*

One might suppose that the recent rash of publications describing and explaining the Iranian revolution and the new Christian right in America has begun to exhaust our interest in fundamentalism but, as the introduction to this work argues, "a theoretically oriented . . . treatment of this topic is only in its infancy" (p. 2). Riesebrodt begins by clarifying the objects of his comparative study—Protestant fundamentalism in the United States from 1910 to 1928 and Shi'ite fundamentalism in Iran from 1961 to 1979—and the reason for their selection. From the opening depiction of fundamentalism as an "urban movement directed primarily against the dissolution of personalistic, patriarchal notions of order and social relations and their replacement by depersonalized principles" (p. 9), the Weberian background to his work is clear, and the systematic manner in which it is prosecuted is fully worthy of Weber.

As the author ably argues, fundamentalism is not mere traditionalism but is a traditionalism that has become reflexive and radicalized as particular social groups respond to change. In two long and symmetrical chapters, Riesebrodt explores the ideology, carriers, and causes of mobilization of his two cases. There are significant differences. Shi'ite fundamentalism was organized in hierocratic and clientelistic structures and became revolutionary; Protestant fundamentalism was democratic, individualistic, voluntarist, and reformist. But there are important similarities. Against what might be the common perception, Riesebrodt demonstrates that they are both primarily urban movements. Both are means by which the traditional middle class conveys to part of the population of urban migrants the principles of its "statutory ethical, rationalized life conduct" (p. 178). In both cases, fundamentalist thought is characterized by patriarchal moralism (Riesebrodt is to be especially praised for appreciating the centrality of gender relations), an organic social ethic, statutory ethical monism, religious republicanism, religious nativism with a claim to universal validity, and messianism and millenarianism. There are also considerable similarities between the carriers of fundamentalism in both settings. For example, "religious practitioners, rather than the leading theologians . . . dominate the movement both in influence and because of their much greater numbers. . . . The inclusion of persons ranking high in the hierocracy . . . is more the exception than the rule" (p. 185).

Riesebrodt also finds common causes of mobilization in both cases: "rapid urbanization and the socio-cultural pluralism associated with it; the dramatic processes of transformation in the social structure, especially the rise of a new economic elite and a new middle class; and the centralization and bureaucratization of the political institutions" (p. 191).

Because this book is translated into English, it is hard to know how the credit for the prose style should be divided between the author and the translator, but considerable credit is due. Difficult issues of historical and theological detail are made readily accessible to the lay reader. I know of no better brief account of either case, and, as well as drawing on the standard secondary literature, the author has interesting new data on the social composition of U.S. fundamentalism.

Especially in the first and last chapters, complex sociological issues are handled with masterful parsimony. As an example, here is Riesebrodt's summary of the Berger view of secularization: "Modern development is taken to have, above all, three problematic consequences for religion: the disintegration of the supernatural view of life by modern science; cultural pluralism in the sense of the contiguous existence of various subcultures, particularly in large, modern cities; and structural pluralism in that life is divided into private and public spheres, whereby religion becomes a private matter" (pp. 22–23). This passage is brief because it is well written, not because it has little to say.

In every respect this work is exemplary. Taken on their own, the accounts of U.S. and Iranian fundamentalism are excellent introductions to those phenomena. Taken as illustrations of radicalized traditionalism, they contribute greatly to our understanding of the cultural and political effects of social change, and, with their careful dissection of the salient features of ideology, carriers, circumstances, and strategies of mobilization, they give us a model that allows us analytical purchase on the burgeoning but unsystematic literature on fundamentalism. Taken as a whole, the book is a model of theoretically informed but empirically rooted comparative sociology.

*God's Peoples: Covenant and Land in South Africa, Israel, and Ulster.* By Donald Harman Akenson. Ithaca, N.Y.: Cornell University Press, 1992. Pp. x + 404. \$29.95.

José Casanova  
*New School for Social Research*

*God's Peoples* shows convincingly that a cultural, social, and legal code, the Hebrew covenantal structure, which goes back to the middle Bronze Age, has not only lasted until the present but has actually served as the blueprint for structuring the recent histories of three contemporary societies: South Africa, Israel, and Ulster. Besides offering a masterful narrative—buttressed by copious secondary sources—of the analogous

histories of Ulster and South Africa since the 17th century and of the state of Israel in the 20th century, Donald Akenson's book attempts to show that "unless one uses the lens of the ancient Hebrew covenant as a primary mode (not sole but primary) of viewing the Ulster-Scots, the Afrikaners, and the Israelis, . . . neither their history nor their future will make sense" (p. 6).

The attempt is not fully successful. The book shows that "the ancient Hebrew covenantal grid"—made up of a jealous and bloodthirsty henotheistic war god, a chosen people, the conquest and colonization of a foreign but god-promised land, and the dehumanization, expropriation, subjugation, and segregation of the native population—functions as a great cultural code that has served to pattern the worldviews, experiences, and actual practices of three contemporary societies. As a work in comparative history, however, Akenson's book has larger theoretical and methodological claims than simply offering compelling and illuminating interpretations of particular histories. Challenging what he views as dominant social-scientific explanations, Akenson wants to show that culture not only matters but can be the determining independent variable. Here, however, Akenson overstretches his claims. Significantly, he fails to stress something that should be obvious from the histories he has so brilliantly reconstructed. The primary and fundamental fact in all three cases was the conquest and colonization of land. The covenantal code was derivative. It was developed later to legitimate the primary fact. Once adopted, however, it served to structure and to sacralize aberrant practices. This primary fact helps to explain the divergent cultural developments of Dutch Reformed Calvinism in Holland and South Africa and of Scottish Presbyterianism in Scotland and Ulster.

Similarly, his indiscriminating rejection of theories of modernization as an analytical framework that fails to explain the trajectories of the three societies depicted in the book rings hollow. It is ironic that, after having spent so much energy trying to prove the resilience of the archaic covenantal code in confronting modern trends, the book ends anticlimactically by depicting how since 1969 the covenant of Ulster Protestantism has come apart and the Afrikaners' system of apartheid has become unhinged. Even more ironic is the fact that when forced to explain such an unexpected turn of events Akenson resorts, at least implicitly, to two central tenets of modernization theory, namely, to the power of moral universalism to undermine invidious particularistic ethics and to the need of legality to ground its legitimacy in democratic, universalistic principles of justice. Having emphasized the primacy of the Old Testament moral code in the demotic theology of the Afrikaners and Ulster-Scots, Akenson shows how the covenantal code was undermined from within when the leadership of the Protestant churches became "liberal" by adopting a moral outlook more consonant with the New Testament code. Apartheid, which was first justified by the Bible, was now incompatible with Christian ethics.

Akenson also claims that meticulous legalism is one of the fundamental characteristics that modern covenant societies have inherited from the Hebrew scriptures. The three stories actually show that as often as not might makes right, that might has the power to make the law, and that the law has the power to justify might. Yet even purely casuistic legalism may hold the seeds of its own destruction. Akenson recognizes that "the ideal of justice is the one concept that can most effectively undercut the rule of laws" (p. 273), and he argues that the Ulster "civil rights" movement of the 1960s proved ultimately fatal to the covenantal outlook by convincing the outside world that the law in Northern Ireland was corrupt. The Afrikaners also proved unable to maintain their self-confidence in being God's people. Ultimately, the Afrikaner elites became convinced that apartheid had become economically irrational, geopolitically aberrant, and morally unjustifiable. It would not be incongruous to read Akenson's stories as empirical confirmation of the strength of global trends of modernization.

Without offering any explanation for the striking divergence, the book shows, however, that while the covenantal grid was unraveling in South Africa and Northern Ireland, in Israel following the 1967 Six Day War it was being established with ever-increasing and predictable rigidity. If the thesis is correct, Israeli society and the Jewish state are headed compulsively on a collision course with the modern world. It remains to be seen whether fidelity to the particularistic covenant will prove superior to the global constraints of capitalist rationality, geopolitical pressures, and moral and legal universalism. Indeed, it remains to be seen whether the books of Moses or the books of the prophets will gain the upper hand in defining modern Judaism.

The book concludes with a highly implausible prediction. "Modern-day Israel is only the most recent society to conform to the covenantal blueprint, but it will not be the last. Others will follow, for the covenant, as found in the books of Moses, is particularly suited to the sorts of smaller societies that are inevitably produced as great empires come apart and as small ethnic groups become independent of their former masters" (p. 357). Fortunately, the conquest and colonization of foreign land by people steeped in the culture of the Pentateuch is unlikely to be repeated.

*The New Politics of Class: Social Movements and Cultural Dynamics in Advanced Societies.* By Klaus Eder. London: Sage, 1993. Pp. ix + 223.

Hanspeter Kriesi  
*University of Geneva*

This book is a collection of essays by Klaus Eder about social class, social movements, and the relationship between the two. Most of these essays have been published before, but many were in German or French. They

are brought together in this volume along with an introduction and concluding chapters specifically written for this occasion. Given that the original texts were written in the space of about 10 years, that they deal with quite varying subjects, and that the author's ideas have developed over the course of time, the volume is not the coherent whole one might wish it to be. But it provides a good occasion to get to know this important German sociologist. Klaus Eder is firmly rooted in European macrosociology. A disciple of Habermas, he is of course influenced by his former mentor. His thinking also bears the marks of Luhmann—most visibly in his (critical) treatment of functional differentiation as a master process of modernization—of Beck's "risk society," of Bourdieu's class analysis, and of Touraine's conception of what constitutes a social movement. Given the richness of Eder's theorizing, there are many ways of reading this volume. My point of view is that of an empirical researcher in the field of social movements.

Deploping the recent turn of social movement theory and research to microsociological and organizational analysis, Eder attempts to reconnect this field to macrosociology. He concedes that this task is not easy, given the "crisis of class politics," in other words, the "decoupling of class and collective action," which he takes as his point of departure. "Culture" turns out to be the key concept allowing Eder to make theoretical progress. In order to understand social movements, he proposes that we contextualize the micro-approaches, in other words, that we locate them in a system of social communication. Culture, understood as such a system, is expected to provide the essential link. According to Eder's idea, "collective action is embedded in a cultural texture—a reality of a specifically organized discourse that is prior to the motivations of actors to act together and even overrides the motivations of actors" (p. 9). The cultural texture mediates the effect of class on collective action. It is embodied in life-forms that constitute and reproduce an action space: "Class has effects on collective action through cultural constructions which are generated in historically specific life-forms" (p. 10). Eder's approach to social movements (or collective action) is decidedly constructivist. He views collective actors as socially constructed within processes of collective action. Social movements are considered to be "collective actors as well as collective action," whose formation on the micro level has to be embedded in a sociohistorical context, in other words, among other things in class structures. Classes, however, no longer are what they used to be. Eder acknowledges that class no longer is a determinant of collective action (if it ever was); he sees it now as a restriction as well as an opportunity. "Classes are no longer historical actors; but they function like a social opportunity structure for collective action that underlies movement politics" (p. 61).

If social class still matters for the analysis of collective action, Eder believes that the concept has to be theoretically constructed in a more adequate way (p. 85) and that the methodology of class analysis still has

to be developed (p. 172). He takes his cues from Bourdieu and insists on the relevance of the category of the "habitus," which allows researchers, according to his view, to link the objective side of class—class position—and the subjective class consciousness. Moreover, the "habitus" serves not only as a reproductive mechanism for class positions and dispositions but also as a central variable in the explanation of the dynamics of collective protest (p. 144). Eder proposes to identify classes by "describing class cultures on a structural level as generated by class-specific schemata or experiencing, perceiving and interpreting the world" (p. 93). What separates these classes of people is "the ability to justify the legitimacy of one's own culture" (p. 92).

More specifically, he turns to an analysis of the class basis of the "new social movements." On this topic he is somewhat ambiguous. On the one hand, he insists on the continuity of the culture of the new middle class—their main structural basis—with the traditional *petit-bourgeois* habitus. He places the new social movements in the tradition of middle-class radicalism as it has, for example, been described by Gusfield's analysis of the American temperance movement (esp. chap. 8). On the other hand, he argues that with their mobilization in the new social movements, the new middle classes have for the first time become a constitutive element of an emerging new class structure (p. 165). That is, he maintains that the middle classes are no longer related to each other by objective conditions of existence—their middle position between the upper class and the proletariat—but by their collective practices to define a mode of social existence, the basic antagonism underlying this mode being the conflict over the means of an "identitarian" existence (p. 182).

I must admit that I had some difficulties following Eder's arguments, although I share most of his basic assumptions, because of his ambivalent relationship to empirical social science. While having read much of the pertinent empirical work on class as well as on social movements, he hardly integrates it into his reasoning. He typically cites and discusses empirical work in footnotes. Where he makes an attempt to take empirical work seriously, it remains strangely unconnected to the main line of his otherwise rather abstract argument. If the empirical results are at variance with his theoretical propositions, he tends to dismiss them by criticizing the sophistication of their methodological base. Eder's theorizing is very rich, full of provocative conceptual ideas and basically sound insights, but for this reader it is not as convincing as it could be, given his uneasy relationship with the empirical research that has been done in the field of his study.



*The Constant Flux: A Study of Class Mobility in Industrial Societies.* By Robert Erikson and John H. Goldthorpe. New York: Clarendon Press, 1992. Pp. 429. \$84.00.

Hartmut Kaelble

*Humboldt University, Berlin*

This book represents one of the major international studies in the historical sociology of social mobility since the pioneering book by Seymour M. Lipset and Reinhard Bendix (*Social Mobility in Industrial Society* [Berkeley: University of California Press, 1959]). Erikson and Goldthorpe take up the four major issues in the field: (1) historical trends—the increase or decrease in rates of social mobility over time; (2) class structure—the reinforcement or weakening of class demarcation lines by individual social mobility; (3) international comparisons of social mobility—especially the famous American exceptionalism and the superior opportunities in the United States; and (4) a more recent issue, the gender gap and the social mobility of women. The study by Erikson and Goldthorpe is a secondary analysis of American, Australian, Japanese, and European (i.e., English, French, West German, Irish, Northern Irish, Polish, Scottish, and Swedish) studies and data. Italian, Dutch, and Czechoslovakian data, collected mainly by the CASMINE project at Mannheim, are also examined. The book uses advanced methods of quantitative analysis of absolute and relative social mobility rates.

The first three issues have been extensively discussed by sociologists and other social scientists during the last 40 years and have been important theoretical issues for the last 150 years. A long debate, which renders social mobility one of the classical fields in the social sciences, stands behind Erikson and Goldthorpe's three conclusions. First, social mobility rates were astonishingly stable over time and did not move in any clear direction. Only in a minority of the cases under investigation, in Hungary, Sweden, and the United States, was a distinct trend toward more fluidity found. Hence, in a general and comparative sense, neither liberal theories of an increase in rates of social mobility from preindustrial to modern industrial societies nor Marxist theories of a decrease in rates of social mobility from preindustrial to capitalist societies are confirmed. Social mobility has no trend and in a way no history.

Second, systematic culturally or politically induced differences between countries or between historical eras of one country could not be found. American society was not distinctly more fluid than European societies. Nor was another "new" society such as Australia, an economically extremely successful society such as Japan, or a socialist society such as Hungary or Poland exceptionally fluid. Nor was an economically unsuccessful society such as England exceptionally unfluid. To be sure, differences exist, but they are not systematic.

Third, the inclusion of the social mobility of women does not lead to fundamentally different conclusions (i.e., it does not represent any distinct

historical trend or systematic international difference). Class inequalities and social mobility exist among women as persistently as among men. Hence, in the view of Erikson and Goldthorpe gender does not make a basic difference in class inequalities of social mobility.

Confronted with the historical and international invariance of absolute social mobility rights, Erikson and Goldthorpe plea for investigations that take into account more factors. They also advocate case studies that more clearly show mobility channels, mobility strategies, and individual resources. On the whole, the book presents the macrosociological analysis of historical and international social mobility at its best. It discourages many oversimplifying theories of historical evolution and international differences. One wishes, however, that the authors, thoughtful as their study is, did not make only a secondary analysis of highly standardized data sets but also a less highly quantitative, more reflective secondary analysis of the many sociological, ethnographic, and historical studies of social mobility in individual cities, villages, social classes, and families. The temporal and international constancy of flux, which they chose as the title of the book, might look different under this type of secondary analysis. History as well as comparison might then become more interesting again in the study of social mobility.

*Fertility Change in Contemporary Japan.* By Robert W. Hodge and Naohiro Ogawa. Chicago: University of Chicago Press, 1992. Pp. 344. \$45.00.

Masanori Hashimoto  
*Ohio State University*

This research monograph reports on the authors' statistical analysis of fertility behavior of Japanese women. The principal data source is the sixteenth round of the Mainichi survey of some 3,000 women of child-bearing age in 1981, though data from earlier and later surveys are also utilized. The Mainichi survey, which has been conducted since 1950, collects information on the family planning practices, fertility, and socioeconomic status of married Japanese women. It has consistently enjoyed a high response rate (83% in 1981) even though the data are collected via questionnaires rather than face-to-face interviews.

Hodge and Ogawa's objective is to discuss major factors that affected the course of Japan's demographic transition and to investigate at the micro level how these same factors continued to influence Japanese reproductive behavior in the 1980s, some years after the demographic transition was completed. Japan is an interesting case since it, unlike the United States, has not seen a dramatic increase in the divorce rate; the Japanese family continues to be very stable despite rapid urbanization and economic development. Chapter 1 contains a macro-level description of the historical background in which modern Japanese reproductive

behavior became consolidated. Japan moved through its final stages of demographic transition between 1947 and 1957. Between the early 1950s and 1980s, educational opportunities for women expanded rapidly, infant mortality declined precipitously, and the level of economic activity grew at an unprecedented rate. The authors relate several variables to the GNP. Female labor-force participation as it relates to fertility is a topic for which there are vast research findings by economists; Hodge and Ogawa, unfortunately, do not draw much on them.

In chapter 2, the authors introduce the many variables used in the cross-section analysis and offer interesting summary data on these various variables. Particularly interesting is the fact that the cohort data reveal the evolution over time of such variables as age at first marriage, incidence of arranged marriage, patrilocality of residence, duration of marriage, ideal and desired number of children, abortions, children ever born, contraceptive use, and attitude toward abortion. In this way, the authors provide valuable clues to the changes that occurred during the demographic transition in these variables. For example, they conclude that it is not so much the respondents to the 1981 surveys as their mothers who used abortion as a means of regulating fertility—and among these mothers it was the younger ones who were most likely to have had abortions. These findings underscore the fact that abortion was instrumental in moving Japan through the demographic transition in the immediate postwar years.

Chapter 3 is devoted to an equation-by-equation formulation of an elaborate path model that involves four exogenous variables, 12 equations, and two accounting identities. Its main conclusion is that by 1981 the process of family formation had become largely homogeneous with respect to social and economic status—owing undoubtedly to widespread public education and information dissemination.

Chapter 4 deals with the relationship between education and fertility. After controlling for related variables, the authors find educational differentials in the number of children ever born to be modest in this sample. This conclusion corroborates findings by other researchers that educational differentials in fertility widened in the early 1950s but gradually declined throughout subsequent years to the present negligible level. Chapter 5 investigates the influences of urbanization and migration on fertility. As Japan moved through the final stages of the demographic transition, a small urban-rural fertility differential continued to persist, but the small magnitude of this differential was partly attributable to the influence of migrants from rural to urban areas. The authors also present evidence indicating that high dwelling-unit density was a factor in Japanese fertility.

Chapters 6 and 7 deal with contraception and abortion as they relate to fertility. It is interesting that the authors find the education of the husband rather than the wife influences contraceptive use. It would have been useful to investigate if the alleged “submissive” role of Japanese

wives changed over time, especially since contraceptive technology has remained unchanged during the postwar years. The authors point out that in contemporary Japan both present and past contraceptive use is associated with more, not fewer, pregnancies. In other words, contraceptives are used by couples who have already reached family-size goals and, to a smaller extent, by those who want to control the spacing of their children according to some plan.

Chapter 8 discusses family-size persistence as a society goes through economic development. Although family-size persistence is now weak in Japan, it is manifested among developing countries in part because assortative matching enhances the joint impact of both husband's and wife's siblings on family size. The authors argue that as economic development proceeds, assortative matching with respect to family size of origin is likely to diminish. This chapter also explores the role of age at marriage as it interacts with family size of origin in determining family-size persistence.

Chapter 9 concludes with a discussion of how fertility behavior evolved in Japan using the data from the Mainichi surveys of 1963 and 1971 and the pooled data from the 1981 and 1984 surveys. This chapter offers a useful overview that helps put the findings from the previous chapters in perspective. In earlier years, older women desired somewhat larger numbers of children. By the early 1980s, the family-size goals had become homogeneous among different cohorts. Moreover, as Japanese women became increasingly knowledgeable about fertility control, the desired and actual number of children grew closer. By 1980, Japanese women moved closer to the accepted norm of two or three children. These and related conclusions are based on the authors' analysis of some eight models in addition to the correlation analysis as applied to different survey data.

My review hardly does justice to the rich detail in which the authors present their findings. Each of the chapters discusses at length the methodology used, the statistical findings, and other technical information. There is an abundance of tables, correlation analyses, multivariate analysis, path analyses—all with a view to elucidating the complex interrelations among the variables that the authors consider relevant.

This monograph clearly meets the highest standards of scholarly work. The authors take great care to elaborate their underlying assumptions at almost every step and routinely report the results from alternative model specifications. As a result, they inspire confidence that the conclusions drawn have survived careful scrutiny and are robust. This approach also affords the reader the opportunity to critically evaluate their analysis and conclusions. However, it is possible that some readers may find it difficult to get the picture of the forest without becoming lost among the trees. It may have been helpful to have many of the subsidiary discussions relegated to appendixes in order to make the main text easier to read. Chapter 2 has two appendixes, but the remaining eight chapters have none. The summary sections in some chapters would have been more informa-

tive if they were less brief relative to the material contained in the text (see, e.g., chaps. 3, 4). These are minor complaints, however. The monograph will be a valuable reference for researchers on demography, especially for developing countries.

*Rival Capitalists: International Competitiveness in the United States, Japan, and Western Europe.* By Jeffrey A. Hart. Ithaca, N.Y.: Cornell University Press, 1992. Pp. x + 305.

Alan Cawson  
*University of Sussex*

A more accurate title for this important study would have been *Rival Capitalisms*, since the focus is not on a global process of competition between capitalist firms but on differences in the institutional structure of capitalism in five major industrialized countries (the United States, Japan, France, the United Kingdom, and Germany). Hart's thesis, simply stated, is that the most important explanation of differences in competitiveness or economic performance between countries is the variation in state-societal arrangements—that is, the distribution of power between state, capital, and labor. The two countries with the best post-World War II record, Japan and Germany, are those where power is shared between two of these three institutions: the state and capital in the case of Japan and labor and capital in the case of Germany. The other three, Hart argues, are cases where one institution is dominant: capital in the case of the United States, labor in Britain, and the state in France.

Hart seeks to establish his central argument in two ways. First, he presents an overview of the institutional features of each country in order to locate each case in terms of various possible state-societal arrangements. Second, and here lies the substantial merit of this book, he presents detailed empirical studies of the steel, automobile, and semiconductor industries in each of the five countries to show how political institutions affect industrial competitiveness. He argues that the way in which technologies are developed (or obtained) and diffused through the sector is a crucial determinant of competitiveness and that institutional arrangements shape systems of innovation.

For example, the effective partnership in Germany between labor and capital accounts for the institutionalization of vocational and industrial training that fits workers' skills to the requirements of new technology. In Japan the strength of the bureaucracy and links with business have helped to create a system where the priorities of the production system and its continual upgrading have been unchallenged policy goals. In the three cases where state-societal arrangements are dominated by a single institution, mechanisms for the diffusion of innovation into manufacturing practice are weak or missing and economic performance is impaired.

Hart's shrewd choice of sectors allows him the opportunity to test his arguments on three industries in very different stages of maturity, so he can see whether the institutions that successfully nurture infant industries are as effective in handling problems of decline and industrial adjustment. In general, this does turn out to be the case, with Japan and Germany better able than the other countries to organize capacity reduction in the steel industry or assist the modernization and internationalization of production in the auto industry.

Hart has done an impressive job in assembling the large range of empirical information that makes broad analyses of this kind possible, and this alone will make *Rival Capitalists* an invaluable source for students and researchers alike. However, as in many undertakings of this kind, there is a slight sense of unease about the extent of generalization and something a little too neat about the fit between the countries and the ideal-type categories from the typology of state-society relationships. There is as much sectoral evidence *against* the labor-dominant view of Britain and the state-dominant view of France as Hart presents for them, and one can think of many sectors of the U.S. economy that cast doubt on the business-dominant model.

Hart's account stresses the importance of state-societal arrangements in explaining national competitiveness and underplays the importance of the international dimension in explaining the production and market dynamics of particular industries. This is not simply a point about the importance of multinational enterprises and foreign direct investment in explaining technology diffusion (a point that Hart sadly neglects) but also a point about the need to set national policy systems within an international political (as well as economic) context. It is strange, for example, that this book analyzes current trends in industrial competitiveness in three European countries without mentioning the European Community (EC) at all. Since the early 1980s several important policy initiatives concerned with technology development and diffusion have been undertaken by the EC, the "1992" program has completed much of the internal market, and EC institutions have tightened their grip on trade and competition policies. All of these developments have affected the industrial competitiveness of member states and deserve some discussion.

Hart's book is an important, if flawed, attempt to bring a political perspective to bear on explaining economic phenomena and deserves to be widely read and argued over. By locating the explanation of economic performance in relatively enduring institutional features, the author eschews simplistic policy nostrums and quick fixes but leaves the British or American reader wondering apprehensively what kind of political upheaval might be necessary to spur institutional change and regain competitiveness.

*Labour and the Political Economy in Israel.* By Michael Shalev. New York: Oxford University Press, 1992. Pp. x + 400. \$69.00.

Ilan Talmud  
*University of Haifa*

It is commonplace to observe sociologists and political scientists ignoring the structure of the economic sphere, treating it merely as a "dependent variable." At the other extreme, there is a tendency among people who view economic factors as a "determinant in the last instance" to underestimate the role of political choice in structuring the economy. Michael Shalev's timely and important book, *Labour and the Political Economy in Israel*, highlights the interface between labor market structure and the political choices made by dominant groups, depicted in a historical process. Shalev analyzes the relations between social groups in one territory. More specifically, he inquires into the political construction of labor segmentation in Israel. The book traces the structuration of the political control of labor in Israel and its (unexpected) consequences. Shalev argues that the outcomes of the political control of labor have driven the state to get involved in a permanent crisis management policy. This is the main reason, he claims, for the political and economic instability as well as the lack of a universal and comprehensive welfare system even under a lengthy and dominant Social Democratic rulership.

Historically, the Israeli labor parties perceived themselves as much more than working-class agents. They had a double agenda: Zionism and socialism. To implement these two apparently contradictory aims, the labor movement used two mechanisms for political control of the labor market. The first mechanism was "social democratic corporatism," meaning the integration of labor and other economic sectors under the dominance of the labor movement. The second mechanism of control was dualism, implying the differentiation and segregation of competing groups according to status groups such as race, gender, nationality, and ethnicity. John H. Goldthorpe has claimed that these political strategies of labor control are alternatives (in his *Order and Conflict in Contemporary Capitalism* [New York: Clarendon, 1984], pp. 315–43). Shalev uses the Israeli system as a special case to illuminate a mix between these two modes of political control of labor. More to the point, there has been tension between the Zionist Labor movement's endeavor to be separated from Arabs in Palestine and Socialist Zionism's ambition to integrate labor power vis-à-vis employers. This dilemma is the origin of the contradictory policy of Mapai, Israel's former Labor Party, in managing the market.

Shalev juxtaposes his approach with both functionalist views of Zionism and resource-dependence interpretations of the Israeli polity. Thus, the book attempts to underscore tensions, crises, and contradictions that are internal to relations between labor, capital, and the state. Shalev uses several historical cases to illuminate his point: the Jewish labor union

(Histadrut) chose to segregate Jewish labor from Arab labor while the labor market was being structured in Palestine. Later, this led to the incorporation of Arab citizens in the Histadrut when the conditions of explicit subordination had already been institutionalized after 1948.

At least until the Second World War, local capital and capitalists were relatively weak and disorganized in Palestine. Furthermore, the lack of a sovereign state hindered the establishment of a formal corporatist regime but did not prevent tacit agreements between sectors: the British Mandate protected local industry, the Jewish National Institutions provided credit and subsidies, and the Histadrut provided nationalistic ideology and organized labor.

Later, the dominant position of the Labor Party was a function of interclass alliances. Additionally, the incorporation of sectoral peak associations into a hierarchical structure was the basis of the Israeli Labor Party's hegemony. The deep economic intervention of the state has strengthened this hegemony. It also made the steering mechanism of the market more efficacious. The state assisted powerful groups by allocating them collective resources. But such intervention is the very seed of political crisis, claims Shalev. The emergence of powerful groups compelled the state to intervene on two occasions. The first episode was the creation of the 1965–66 recession as a political solution to reduce demands for higher wages. The second was the intervention of the state in stabilizing policy after a period of uncontrolled hyperinflation in the late 1970s. Both episodes contributed to the erosion of labor power, playing into the hands of big business interests. Furthermore, the nonunion functions of the Histadrut and its interest as an employer and an institutional investor facilitated symbiotic dependence between private and public employers resulting in a consolidated policy network vis-à-vis the state, extracting collective benefits from the state.

By comparing the Israeli case with both a Social Democratic model and a corporatist model, Shalev presents a good analysis that captures the dynamic processes of Israeli political economy. Despite Shalev's presumption to the contrary (p. 12), his perspective is not an alternative to world-system and resource dependence theories. This book's viewpoint complements both perspectives, depicting the source of the strategic position of Israeli politicians stemming also from the authoritative allocation of collective resources. Shalev reveals important layers of Israeli history that have never been systematically investigated. Yet, by rewriting Israeli history, Shalev, who ingeniously integrates politics with economics, tends to reduce the political ambitions of Zionism to mere economic strategy. In spite of this, *Labour and the Political Economy in Israel* is a major analytical contribution to the field of political economy and also presents a strong alternative to the conventional views of Israeli history.



*Organizing for Peace: Neutrality, the Test Ban, and the Freeze.* By Robert Kleidman. Syracuse, N.Y.: Syracuse University Press, 1993. Pp. xvi + 261.

James M. Jasper  
*New York University*

If Hegel was right about the owl of Minerva, then books about social movements inevitably appear after the movements themselves have passed their prime or disappeared entirely. Scholars of protest thus write history, even if it is often recent history based on interviews and participant observation. Even Alain Touraine, whose method of "sociological intervention" involves a form of focus group composed of active protestors, usually publishes each book in the gathering dusk of that social movement. Robert Kleidman capitalizes on this historical aspect by comparing the Nuclear Weapons Freeze Campaign, in which he participated, with two older peace campaigns: the Emergency Peace Campaign from 1936 to 1938 and the Atomic Test Ban campaign from 1957 to 1963. *Organizing for Peace* concentrates on organizational tensions within the campaigns: between the sponsoring organizations and the organizations created specifically for each campaign, between a strategy of pressuring national policymakers and that of building local groups, and between professional expertise and grassroots organizing.

In many ways Kleidman's comparison is crisp. These three campaigns represent the high points of 20th-century peace activism in the United States, spaced at intervals of roughly 20 years in a period of enormous economic, political, and cultural changes. The comparison should allow Kleidman to make some powerful statements about historical trends in protest. From 1936 to 1938 the Emergency Peace Campaign for U.S. neutrality uneasily combined pacifists and liberal internationalists. With a staff of 150 at 91 area offices, it was funded by large donors, especially a handful of wealthy Quaker families. The test ban campaign was not so neatly dominated by a single organization, although Kleidman attempts to tell a parallel story by focusing on the most visible group, the Committee for a Sane Nuclear Policy (SANE), with occasional references to more radical groups such as the Student Peace Union. For the 1980s Kleidman again focuses on a single organization, the Nuclear Weapons Freeze Campaign, even though there were others of similar prominence.

Alas, Kleidman's comparison never comes into clear focus, since we are never sure what the variable and the nonvariable factors are. His decision to compare campaigns rather than movements or organizations helps him concentrate on the relationship between various organizations, but he slips between campaigns and organizations in a vague way. He usefully distinguishes between peace and antiwar movements but not between the movement for neutrality in the 1930s and the later movements against specific (nuclear) weapons. His is a qualitative but not interpretive study: the meanings and motivations of actors are lost in a

flood of organizational acronyms and facts. There is little sense of the broader cultural or even political contexts of the campaigns. If the content of movements and campaigns is irrelevant to organizational dynamics, then his chapter on the history of U.S. peace movements is superfluous and his choice of campaigns arbitrary.

Comparisons challenge an author to present individual stories, then analyze and contrast them without repeating the details. In *Organizing for Peace* the details are daunting in the individual chapters on each campaign; when repeated in the final, analytic chapter they are numbing. Kleidman's analytic points get lost. One of these points is especially interesting: the earliest campaign had more emphasis on professionals and national pressure, the last on local, grassroots organizing. From the literature on social movement organizations, which insists on the increasing role of professionals and their activities, this seems surprising. Set in a broader context, however, it seems obvious that during the past 30 years hundreds of thousands of Americans have learned habits and skills of grassroots protest and have cultivated an ideology of participation; they were available to the peace movement in the 1980s. It seems that the professional and the grassroots capacities for protest have both increased in American society.

Two obvious questions are, What impact did these campaigns have on national policy? Are certain organizational forms more effective than others? Kleidman addresses these questions, reasoning that there must have been some effect. But there is little evidence one way or the other, except that the outcomes in all three cases were far from (in two cases the opposite of) what the campaigns wanted. Kleidman hopes that there was a broader cultural impact, if not a policy effect, but his study cannot answer this question. Because few protest movements have demonstrable policy effects, there is a challenge here: Can scholars trace the more subtle effects of protest movements to show that these are an important part of modern society? In addition to impacts on the state, can we examine the effects on protestors themselves and on public opinion and culture? Having shown that protestors themselves are rational, can we show that protest movements are "rational" for society? Research advances by asking new questions as much as by giving new answers.

*Mobilizing against Nuclear Energy: A Comparison of Germany and the United States.* By Christian Joppke. Berkeley and Los Angeles: University of California Press, 1993. Pp. 307.

David S. Meyer  
*University of Michigan*

West German activists successfully occupied the proposed site for a nuclear power plant in Whyl in 1975, ultimately preventing the plant's construction. Antinuclear activists in the United States retold the story

of Why! as model and inspiration for some of their efforts, particularly in the decades-long struggle against the construction of a nuclear plant in Seabrook, New Hampshire. The diffusion of movement tactics and stories across continents is part of the context in which so-called new social movements emerged throughout the Western world in the 1970s and 1980s. Environmental, feminist, and peace movements offered unpredicted strong challenges to the conduct of policy in the West; they also provided theoretical challenges to sociologists and analysts of political protest. The virtually simultaneous emergence of similar movements in ostensibly vastly different contexts was an implicit challenge for comparative work, a challenge that has only partly been answered by political science and sociology in the ensuing years.

Christian Joppke takes up this challenge by offering a detailed comparison of two of the largest anti-nuclear-power movements. Bracketed by a theoretically oriented introduction and conclusion, the bulk of this book is taken up by thick description and analysis of the German and American movements. Joppke offers paired chapters on the origins, response to the "energy crisis," and decline of each movement. He considers the German responses to the accident at Chernobyl and the responses of the American movement and government to the reactor accident at Three Mile Island. Sifting through a wealth of secondary materials, as well as numerous interviews in each country, occasional participant observation, and movement organization archives, he offers a fairly comprehensive view of each movement.

The broad comparative findings are a familiar story. In West Germany the antinuclear movement developed from the grassroots, based in and around both traditional environmental groups and successors to the student movement. The German activists staged site-based campaigns, often successful, some of which challenged not only nuclear power but the very legitimacy of the state. Radical anti-statists and community-oriented groups forged an uneasy and short-lived alliance, ultimately superseded by the peace movement of the 1980s and the new Green party, which each responded to some antinuclear movement claims.

In the United States there was no comparable strong ideologically oriented left; initial antinuclear activists included both dissident scientists and partisans of nonviolent direct action. Ultimately, the antinuclear movement was swallowed by the rich and diverse interest-group society, which allowed like-minded citizens to find a wide range of potential allies and tactics for pursuing their claims. Joppke finds a weak state and strong society, a pluralist paradise not unlike the America described by Tocqueville. In both the United States and West Germany, the antinuclear movement was but one factor that made nuclear power less attractive to policymakers; economics were likely more critical in both cases.

Since much of this material has been well told elsewhere, even in explicitly comparative frameworks, much of the work's value lies in its theoretical contribution. Self-consciously eclectic in making use of various theoretical frameworks, Joppke focuses on the relationship between

context and protest. Rather than seeking to disprove or discredit any of the extant analytical traditions jockeying for prominence in the study of social movements, Joppke reasonably wants to make use of whatever can help us understand the different paths these movements took.

Social protest movements can change the conditions that give rise to other and subsequent social protest movements. Their targets, allies, and opportunities all change in response to numerous factors, including political protest. Any sensible analysis of protest movements must then, Joppke argues, capture the essentially interactive relationships between states and challengers, opportunities and activism, and more broadly, structure and agency. Joppke's theoretical concern is developing a "modified political process" approach that focuses on the dynamic and interactive nature of political opportunity. Opportunities for both protest and policy influence are bounded in culture, structure, and time. He considers the strategic decisions activists made, the policies and politics they confronted, and most importantly, how they affected each other.

Joppke's approach is intelligent and well grounded, if less of a departure from other political opportunity and political process approaches than he asserts. Although some comparativists have used static institutional variables as the primary factor in explaining social movement differences, this practice is not dominant today. In recent years numerous case studies of particular movements have emphasized both the temporal nature of opportunity and the dynamic interaction between challengers, the state, and public policy. Quite likely Joppke identified a real deficit in the literature, then set about his research. Having completed his impressive work, Joppke will no doubt be delighted to see that others have since developed similar modifications in the political process approach.

*Engaging the Enemy: Organization Theory and Soviet Military Innovation, 1955–1991.* By Kimberly Marten Zisk. Princeton, N.J.: Princeton University Press, 1993. Pp. 247.

Roger Hamburg  
*Indiana University at South Bend*

Zisk's monograph proposes to connect organizational theory and "learning" without stretching the empirical data to fit the theory or positing the theory at such a high level of generalization as to be useless for description or prescription. She does this admirably. She uses three case studies: the Soviet military response to the Kennedy "flexible response" and conventional force build up of the early 1960s, the Schlesinger limited-counterforce option of the middle and late 1970s, and finally the evolving U.S. emphasis on air-land battle and conventional forces deep strikes of the 1980s. She then formulates five hypotheses, tests them in light of the U.S. policy as it interacts subtly with Soviet domestic concerns and organizational behavior, and then states her conclusions.

Learning theory, not explicitly stated but implied in this study, posits that the international environment, cost factors, and escalation concerns will eventually impose their own logic—internal organizational imperatives and domestic political bargaining notwithstanding. This raises a question: Do states behave the way that they do because the external environment imposes an order on them, or is the international environment the result of the interacting forces of particular foreign policies responding to internal imperatives? The military as an institution is at the intersection of these two sets of constraints.

Zisk concludes that the Soviet military was not wedded to the status quo (although generational differences were a factor) and would respond to external imperatives in a manner that met its perceived need to safeguard state security and simultaneously blunt internal threats to autonomy, resources, and career prerequisites. The Soviet military was a complex group, neither hidebound bureaucrats who resisted all innovation nor unthinking followers of the party line. Many had independent approaches to doctrinal innovation and often courageously stated them at some risk to their careers. (It might also be added that the way the Soviet military *implemented* a supposed consensus, especially under Brezhnev, also showed ingenuity and fealty to military interests.)

Yet Zisk observes that there are limits to such courage and cleverness. In a statement that is haunting in the light of the U.S. experience in Vietnam, she says she sees no evidence that any military recognition existed that arms races and doctrinal innovation are reciprocal, that one's own advance simply leads to an external response: "There is no evidence that any such solutions [indications of a more conciliatory Soviet line] were pursued" (p. 78). Yet by the late 1970s some Soviet military figures, like Colonel N. A. Chaldymov, contended that limited counterforce in the Schlesinger doctrine was not preparation for a U.S. first strike, requiring corresponding changes on the Soviet side, but a way of communicating warning in a hypothetically escalating situation on the ground in Central Europe. A more guarded and conciliatory Soviet response would be appropriate.

Zisk's five hypotheses combine these internal and external imperatives. (1) Military organizations develop innovative doctrines of their own without civilian intervention if they see external innovations as a threat to the success of their own current war plans. (2) Military officers prefer innovation when augmenting military resources and autonomy. (3) Military officers will react first to domestic threats to their autonomy before reacting to foreign threats to state security. (4) Policy innovation occurs slowly after effective debate. (5) Finally, such a consensus need not result in the lowest common denominator but can lead to a new, creative reaction to a foreign doctrinal shift, as Gorbachev and now apparently Yeltsin are doing.

Zisk concludes that any U.S. trumpeting that it is the sole remaining superpower, even if for narrowly internal reasons, will be counterproductive. Sentiments of wounded pride and even revenge are not absent

within elements of the former Soviet military or the population as a whole. Better to let sleeping—or temporarily dozing—dogs lie.

This study combines deterrence theory, political sociology, and organization theory at a high level with a sophisticated use of Russian-language materials and interviews on a topic of truly global significance past, present, and future. It marks another advance down the arduous but necessary path of reconciling comparative and international politics and is a major contribution to the social science literature.

*Knowing Nukes: The Politics and Culture of the Atom.* By William Chaloupka. Minneapolis: University of Minnesota Press, 1992. Pp. xvi + 163. \$14.95.

Andrew Marchant-Shapiro  
*Union College*

As an attempt to deal with “the politics and culture of the atom,” *Knowing Nukes* falls considerably short of its goal. This is in large part because the book is not really about understanding what its author terms *nuclearism*: “the position taken by the managers and leaders of nuclear states, even if they seldom identify this as an identifiable political stance” (p. xv). Rather, the book is a paean to a theoretical perspective—post-modernism—in which an odd admixture of empirical data and assertions seems to play a primarily illustrative role.

In seven remarkably brief (if tediously sesquipedalian) chapters, Chaloupka discusses topics ranging from the disappearance of the warrior to computers, robots, Star Wars, and Ronald Reagan. The text is “playful” (in the postmodern sense) in the extreme, which most readers will probably find somewhat annoying. An example of the book’s style is found in the paragraph quoted below. Here, Chaloupka has been contrasting subjective and objective (or “external”) ironies. The former is the irony perceived by an observer, while the latter inheres in a political system—in this case, nuclearism:

This “external irony” was often misdiagnosed as existentialist absurdity by the American counterculture of recent decades. Playing roles, not always serious about one’s own persona, this part of their politics was inadvertently ironist or, rather, was ironist to a point (that point being the now caricatured search for alternative metaphysical ground that marks every enterprise called “New Age”). Taking the frivolous seriously, refusing to do the same for the potentially fatal, renegotiating boundaries through continual reversals (of roles, expectations, perspectives), these amateur ironists briefly experimented with the future of oppositional politics in a post-modern world. [pp. 101–2]

In a volume that purports to take language seriously (or even playfully) this style of writing—long on jargon and parentheticals, short on con-

tent—is a major deficiency. To this, I must add the following problems: a number of factual errors (e.g., Chaloupka calls the Hiroshima bomb, or “nuke,” “Thin Man” [p. 46]); a refusal to seriously consider alternative theoretical perspectives; and a lack of any new empirical material. Finally, Chaloupka has a tendency to write about actions without human agents. While he seldom uses passive voice *per se*, ideas and theories are often doing things: “More important than the ebb and flow of what only seemed to be an antagonism, a new status and revised techniques of power just began operating and establishing themselves” (p. 68). This situation should make sociologists particularly uneasy.

Given these not inconsiderable problems, is there any reason to read this book? In fact, there are two. First, if you have an interest in the work of Foucault, Derrida, or Baudrillard, you may find this an interesting consideration of their work and the ways in which it relates to society and politics. Second, although the book falls short when taken as a whole, it includes a number of assertions and hypotheses that may be of interest to political sociologists.

While some of these useful parts have appeared elsewhere, Chaloupka occasionally gives them a new spin. He considers questions such as: Why are charges of weakness and appeasement the neoconservative response to discussion of the aftermath of nuclear war? How has the nuclear state managed to control our impressions of the postnuclear world? (Chaloupka’s claim is that antinuclearists have unwittingly assisted the nuclear state in creating an image of nuclear war as something “unspeakable,” and therefore have until recently helped to push that entire issue off the agenda.) Why do R2D2 and C3PO come to us as the first pop-culture robots that (who?) are less, rather than more, threatening by their very humanity (in contrast to an earlier decade’s HAL9000)?

For me, one of Chaloupka’s most interesting suggestions is that we should consider *non*participation in representative politics (i.e., not voting) not as an expression of apathy but rather as a metapolitical strategy of protest, a point he illustrates with reference to student government. Most students do not participate in student government, he argues, because they realize that student government is largely a joke, an attempt to co-opt rather than to empower the student body. Consequently, their refusal to participate can be read as an extrasystemic protest against co-optation.

Good ideas, alas, do not make a good book. This volume, while well-intentioned, is crippled by its failure to cohere. But that may be Chaloupka’s intent, after all. Describing his version of postmodernist analysis by analogy to a map, he writes that “what is most certain about this map is that it shifts unnaturally, reshaping itself and threatening to dissolve in our hands. The map is partial, incomplete, provocative; it fails to represent the entire territory. It is a trickster’s map” (p. xv).

*Capitalist Development and Democracy.* By Dietrich Rueschemeyer, Evelyne Huber Stephens, and John D. Stephens. Chicago: University of Chicago Press, 1992. Pp. x+388. \$45.00 (cloth); \$19.95 (paper).

Dongno Kim  
*University of Chicago*

This book represents a great achievement. It not only covers diverse geographical regions and historical periods but, more important, tries to resolve methodological and theoretical contradictions in current studies on capitalism and democracy. Methodologically, it attempts to reconcile two distinct traditions of research: quantitative cross-national comparisons and comparative historical studies. Theoretically, it confronts both modernization theory and dependency theory. As an alternative, the authors develop a political economy approach in which three clusters of power—class power, state power, and the transnational power structure—play key roles in the institutionalization and collapse of a democratic regime.

In their view, the central power configuration, class relations, is the key to understanding the structuring of interests and power in society (p. 5). Within the class-oriented analysis, the authors repudiate Barrington Moore's view of the bourgeoisie as the main agent of democracy. Instead, they insist that capitalist development is associated with democracy because it weakens the landed upper class and strengthens the working class and other subordinate classes (p. 271). After investigating the respective positions of classes, they conclude that capitalism creates democratic pressures despite capitalists, not because of them. Democracy was the outcome of the contradictory nature of capitalist development, which empowered the subordinate classes, especially the working class, by equipping them with the capacity for self-organization.

The concrete analyses in the book are penetrating. The book is less convincing, however, when it relates theoretical arguments to concrete analyses. A problem exists in its handling of the relationship between capitalism and democracy. The relationship between the two is not reciprocal but asymmetrical: economic class interests determine the change of political regimes, not vice versa (p. 46). Thus, the authors treat politics as residual, determined by extrapolitical influences, though this is less visible in their analyses of late developing countries. This thesis is problematic due to its incongruence with the empirical finding that virtually all full-fledged democracies are associated with capitalist economies, whereas not all capitalist economies enjoy democratic political support (p. 2).

On a deeper level, the authors' contention for a positive relationship between capitalist development and democracy requires close examination. In actuality, capitalist development cannot be equated with democracy, despite the fact that it causes the expansion of the working class. A quantitative enlargement of the subordinate classes does not guarantee their self-organization and subsequent increased political participation,



as has been demonstrated in the East Asian developmental states. For the consolidation of a democratic regime, the working class must possess the capacity to organize themselves, frequently with the aid of outside leadership, and to overcome social and political controls from above.

Likewise, the authors' research on advanced European countries shows that, with the exception of England, the more economically developed regions with strong land concentration failed to establish democratic regimes, while less economically developed regions with small landholders manifested an opposite trend. The authors attempt to solve the apparent contradiction between this concrete fact and their theoretical argument by regarding politically powerful large landholders as an inherently antidemocratic agent. This solution only evinces the inadequacies of their class analysis.

In explaining change in political systems, the class analysis in the book is dichotomous: opponents of democracy (landlords and the bourgeoisie) versus its promoters (the working class and its allies). This simplified class structure loses its validity when we think of the internal heterogeneity of each class. Not all landlords resist democratic social movements from below, as Jeffrey M. Paige plausibly shows in his book *Agrarian Revolution* (New York: Free Press, 1975). The relationship between landlords and other classes is considerably conditioned by the kind of agriculture and by land productivity (factors completely ignored by Rueschemeyer et al.), as well as by the degree of land concentration. Similarly, not all working-class members will advance democracy, depending upon the nature of their work organization and the concessions from upper classes. Thus, the class analysis in the book could have been strengthened if the authors had further divided each class into segments and investigated what facilitated alliances between certain class segments over the traditional class boundaries.

Class relations appear even more complicated when we consider who initiated the capitalist economy and why they did so. In contrast to an excessive concern with the change in political system, the book unduly neglects how capitalist economies developed, regarding this development as structurally given. That explains why the authors easily negate the role of the bourgeoisie, who decisively contributed to the emergence of new systems, in the initial democratization of European countries. The conjoint analysis of the historical development of capitalism and democracy would prove that the authors' rejection of Moore is still incomplete and would challenge them to incorporate his theoretical insights for a better understanding of the relationship between economic and political transformations.

*The Return of Civil Society: The Emergence of Democratic Spain.* By Victor Pérez-Díaz. Cambridge, Mass.: Harvard University Press, 1993. Pp. viii + 357.

Felipe Pimentel  
*City University of New York*

This revised version of *El retorno de la sociedad civil* (1987) provides English readers with one of the most thoughtful works on contemporary Spanish society. The author belongs to the generation of sociologists that has witnessed the last two decades of Spain's political transformation. The book argues that the transition from dictatorship to democratic regime has been part of a deeper process of cultural and social change, as Spanish society approaches late modernity.

In the first part, Pérez-Díaz lays the theoretical framework for analyzing survey findings in part 2. He challenges the currently fashionable political sociology explanations—ranging from modernization to rational choice theories—for omitting the analysis of cultural questions essential for the study of democratic change. He argues that neither structural nor actor-oriented theories account for the cultural factors in democratic transitions that allow actors to operate and make sense of the processes they both produce and are a part of. Pérez-Díaz stresses the role played by traditions, rules, and institutions that are at the core of the structure/actor approaches. In this perspective, actors are seen as rule followers rather than choice makers. Their preferences and political choices are shaped by a cultural context made of traditions and institutions that constitute civil society.

The transition to, and consolidation of, democracy in Spain was only possible given the existence of the civil society's preexisting metarules that framed the actors' behaviors as well as the political dynamic of the period. In Pérez-Díaz's view, when Franco died in 1975, Spanish society had already reinvented a liberal democratic tradition that prepared the path for a regime change.

The second chapter discusses the concept of civil society in social theory from 18th-century political philosophy to the present. The author distinguishes two concepts of civil society: one emphasizes the liberal democratic aspects of the modern republican state, the other emphasizes the notion of societal autonomy vis-à-vis the political sphere. For Pérez-Díaz, civil society refers to social institutions, markets, and a public sphere outside the direct control of the state.

The Catholic church's evolution since the end of the Spanish civil war and the role mesogovernments have played during Spain's democratization are the subject of the next two chapters. According to this study, beginning in the late 1950s, Franco's regime lost the support of a large sector of the church. This institution, which provided Franco with part of the ideological justification for his overthrow of the republican government in 1939, underwent a "silent revolution" along with the rest of the

country during the 1960s and 1970s. Spaniards' relationship with the Catholic church changed with the new epoch. It appears that both the intensity of belief and the frequency of practice have diminished, while the church still maintains the diffuse support of the majority of the people.

The author considers Spain's recent neocorporatist experience and the problems of governability of the new democratic regime. He examines how the transition to democracy was furthered by the establishment of political and social arrangements that increased the new regime's capacity to resolve peculiar problems. For instance, the territorial cleavages that historically set the Basques and Catalans against the central state were largely overcome with new regional institutions that gave these national communities autonomous governmental forms.

The Spanish transition to democracy took place in a precarious economic environment that became a potential threat for the stability and consolidation of the new regime. To cope with it, national social agreements between the government, employers, and labor were instituted. While contributing to the consolidation of democracy, these corporatist pacts did not adequately resolve the fundamental economic problems. In Pérez-Díaz's view, the social pacts maintained the rigidities of the labor market and delayed into the mid-1980s the necessary adjustments to the growing economic crisis. The relative political success of the social pact policy was due to the prior existence of what he terms an "implicit social contract" between the workers and the owners of capital.

The values and ideology of the working class and its problematic relationship with labor organizations and the political left are examined in the last part of the book. The theoretical arguments are grounded in data from several national surveys the author conducted between 1978 and 1984. These surveys found Spanish workers to be moderate and unsupportive of a radical transformation of capitalism. In contrast, labor organizations tended to be more radicalized, creating a "potential crisis of representation." The concluding chapter argues that strong class identities of the past have been weakened by current social and cultural transformations and that an instrumental rather than an ideological commitment to unions' collective action is what prevails in Spain, as in most West European postindustrial societies.

This book is an important contribution to the sociological understanding of modern Spain. Further, it demonstrates how sociology can be an academic discipline without abandoning its normative and political concerns.

*The Limits of Social Democracy: Investment Politics in Sweden.*  
By Jonas Pontusson. Ithaca, N.Y.: Cornell University Press, 1992.  
Pp. viii + 261.

Madelaine Gerbaulet-Vanasse  
*University of Chicago*

The decline of the world famous Swedish model of peaceful industrial relations and democratic corporatism has spurred the publication of a number of works in recent years. Many scholars agree that the decline was signaled by the events of the 1970s, when the social democratic government and the National Labor Union Federation (Landsorganisationsen, henceforth LO) abandoned the peace by compromise with the National Employers Association (Svenska Arbetsgivareforeningen, henceforth SAF) and pushed for a number of anticapitalist reforms. This volume focuses on the three most important reforms implemented since 1970: the active industrial policy, codetermination in the workplace, and collective share-ownership (also known as wage-earner funds.)

Pontusson sets out to explain why labor turned left in the 1970s and why the implementation of these new reforms was largely unsuccessful. In a broader context, Pontusson tries to illuminate under which circumstances social democratic policies can and will be successful and when they are bound to fail (hence the title).

Pontusson focuses on the politics of production in his assessment of Swedish social democracy and limits his investigation of reforms to the industrial arena. He skillfully examines how issues crucial to the labor movement, such as full employment and productivity growth, can be achieved if labor maintains some control over investment. As long as labor can influence the allocation of capital, they can successfully strive for reforms while peacefully coexisting with capitalism. In the first part of the book Pontusson analyzes the history of social democratic reform since the 1930s and demonstrates that the successful reforms were the ones that were acceptable to the traditional working class, the growing white-collar employee strata, as well as capital. Pontusson extensively discusses the Ap funds, which were collected to finance the universal pension system but also provided industry with capital, as an example of a successful reform. A universal pension system was advantageous to all wage earners, regardless of whether they were blue collar or white collar. At the same time, the funds were a source of investment capital for Swedish industry.

Pontusson locates the decision by the labor union federation to strive for reforms of the industrial policies, codetermination, and wage earner funds within the framework of a number of challenges facing the Rehn model, which guided the policies of the labor movement in the postwar era. The Rehn plan entailed two main premises: equal pay for equal work and a solidaristic wage policy. Through solidaristic wage policies,

lower paid wage groups could catch up over time. Equal pay for equal work meant that all employers had to pay the same wage to workers doing the same job. This helped the economy by weeding out inefficient businesses that could not afford to pay the centrally agreed upon wage. Yet to prevent wage drift (salaries in excess of centrally agreed upon wages) in the highly skilled groups and in industries doing very well, it became essential to control profits and stimulate investment. Wage drift and the desire of individual unions to fight for increases after the central agreements became an increasing problem in the 1970s. In addition, the internationalization of Swedish industry, the reluctance of firms to rely on borrowed capital in the aftermath of the oil shocks, and the SAF's decision to strive for decentralized bargaining made it increasingly important for labor to tighten its control over investment.

In the second part of the book, Pontusson addresses the reforms introduced by the labor movement in the 1970s and 1980s and examines the reasons why they failed. Basically, Pontusson argues that these reforms failed because they did not follow the successful formula of universal benefit that earlier reforms had. All three reforms failed due to some combination of creating a split between the social democratic government and LO (active industrial policy and wage-earner funds), because the growing white-collar groups did not support the reforms (wage-earner funds and industrial policy) or because capital mobilized against it (wage-earner funds and codetermination) or even managed to co-opt labor once the legislation was in place (codetermination).

Pontusson's assessment of social democracy's success is thus bleak. In contrast to scholars who have focused on the welfare state in their analysis of Sweden, Pontusson arrives at a much less flattering picture of the ability of social democracy to bring about social change.

This volume represents an important contribution to the study of Sweden as well as of social democracy. Pontusson's account of the failure of the reforms is extremely compelling and his theoretical discussion of social democracy is very successful. However, there is one problem, which I believe stems from the focus of the book. In order to stay with his novel approach, focusing on investment politics, Pontusson pays insufficient attention to the internal dynamics of the organizations. He very briefly touches upon the difficult collective action problems faced both by LO and SAF and dismisses explanations that focus on rank-and-file protest or transformations of the constituencies. The reasons labor turned left are centered only around the need to control investment. Insufficient attention is paid to the inherent dilemmas of cooperation and the changing bases of the constituency for the organizations. For example, LO has become increasingly heterogeneous, as successful unionization has depended upon women, part-time workers, and public employees. SAF has reorganized internally, as their membership growth has rested upon small employers who sought other outcomes than national export-oriented industries. These changes have had far-reaching effects upon

the strategies of the organizations. Pontusson, however, does not address these issues.

In sum, this is a good book with a clear focus and a compelling argument. It will be a must-read for political sociologists, political scientists, and everyone interested in Swedish political economy and the future of social democracy.

*In Theory: Classes, Nations, and Literatures.* By Aijaz Ahmad. London: Verso, 1992. Pp. x + 356. \$29.95.

S. M. Shamsul Alam  
*Southern Oregon State College*

The collapse of various "actually existing socialist societies" in the late 1980s and early 1990s has had a profound impact on academic Marxism. Various attempts have been made to recast the basic tenets of Marxism in view of this "crisis of Marxism." Although I do not wish to oversimplify, the response to the crisis could be identified as follows: (1) in the postmodern and deconstructionist turn, in which Marxist analysis based on certain foundational concepts has been challenged and (2) in the political arena, in which the relationship between economic and political power has been reevaluated. The monopoly of political power by a monolithic communist party has been challenged by democratic pluralism: communist forces have to compete with noncommunist forces for power. In other words, single-party hegemony in civil society has been fundamentally altered.

Ahmad's book, although solely concentrated on literary theory and criticism, is a fresh contribution to this debate around the crisis of Marxism. More specifically, his main objective is to spell out the changing relationship between Marxism and literary theory, "in particular branches of literary theory, clustered around questions of empire, colony, nation, migrancy, post-coloniality, and so on, as these questions have been posed from the 1960s onwards—first under the insignia of certain varieties of third worldist nationalism and then, more recently and in more obviously poststructuralist ways, *against* the categories of nation and nationalism" (p. 3; emphasis in original).

In other words, Ahmad sought to contextualize the possibility of Third World literature within the various genres of literary theory, namely postmodernism, poststructuralism, and deconstruction within the Marxist problematic of the political. Specifically, the author argues that the various schools of literary criticism are intrinsically related with the political culture of Western academic Marxism and its separation from the political struggle—a core concept of Marxism. In this context, Ahmad's point of departure is the student revolt of 1968 in the West and various communist parties' and forces' ambivalent attitude toward it.

The book addresses such seemingly diverse concerns as the contours of Third World literature, Jameson's contribution in literary theory, Salman Rushdie's *Shame*, Edward Said's *Orientalism*, and Marx's original intention in his writings on India.

In chapter 1 Ahmad argues that colonial discourse and Third World literature are mediated by the theoretical tradition of Western literary criticism, which, in his term, is thoroughly "embourgeoisified." In this context, analyzing colonial discourse and Third World literature as "counter canon" and "counter-hegemonic discourse" is a futile exercise as the criticism always remains institutionalized within Western hegemonic discourse. In chapter 2 the author discusses the role of the English language in postcolonial India and says that it establishes a crucial cultural link in a culturally heterogeneous society. Because this link was created by an English-educated professional class that maintains close ties with the metropolitan countries, however, it prevents writers and intellectuals from forming a genuine "Indian literature."

Chapters 3, 4, and 5 deal with specific practices of postcolonial discourse and Third World literature by analyzing, respectively, the works of Jameson, Rushdie, and Said. These chapters consider the possibilities of Third World literature as a counter canon. For example, Ahmad describes Rushdie's *Shame* as a work of "post-modern migrancy" and argues that Rushdie's portrayals of the "nation" and the "Third World" through a narrative technique from the high culture of the metropolitan bourgeoisie has little to do with either the "nation" or the "Third World." Moreover, this mediation facilitated by the machineries of representation developed during the modernist period of 19th-century Europe. Similarly, to Ahmad, Jameson's analysis of Third World texts as an "experience of colonialism and imperialism" that constructs the idea of "nation" as "national allegories" not only posits First World and Third World in a binary opposition but also homogenizes the entire Third World in terms of ideology (Jameson's national allegories). Ahmad's position vis-à-vis these three scholars and writers becomes clear in chapter 6, where he analyzes Marx's writings on India to provide a basis on which a Marxist discussion of Third World literature can be made. The author forcefully shows that Marx's journalistic work on colonialism did not portray colonialism and imperialism as the only source of dynamism in colonized societies. Marx's aim was to critique capitalism as an expansionist force. Ahmad criticizes Said (chap. 5) for his failure to read Marx's writings on colonialism in this light, because this failure poses a serious methodological problem for Said in reading Third World texts as a discursive practice.

In chapters 7 and 8 Ahmad's objective is twofold: (1) to provide an idea of how to conceptualize "Indian literature" in a country that is linguistically and culturally diverse and (2) to clarify the debate around three-worlds theory. In chapter 7 the author argues that developing a theoretical understanding of Indian literature is a serious problem because Indian society is culturally and linguistically heterogeneous. Ah-

mad identifies the problems surroundings such an idea rather than formulating his own theory. In the final chapter (chap. 8) Ahmad attempts to rekindle the debate on the theory of three worlds (advanced capitalist, centrally planned socialist, and "backward," "traditional" agrarian societies) by saying that, on the basis of post-Cold War global restructuring, such categorization is obsolete. Ahmad proposes three provisional hypotheses to replace the three-worlds theory. First, the world is not divided into monolithic binaries, rather it is a hierarchically structured whole with its own answering dialectics. Second, one such answering dialectic, the universalistic project of socialism for improving backward social formations, is no longer concentrated in those formations alone, as bearers of the socialist project may come as much from the advanced as from the backward zones of capitalism. Third, "the nation state is neither the site for the reproduction of capital in the zones of advanced capitalism nor the primary site of resistance to imperialism in zones of backward capitalism" (p. 317), because the logic of capital has taken on a global character and become deeply entrenched in all societies.

This work is part of a dialogue *within* Marxist theory. Ahmad successfully incorporates many concepts from theories such as postmodernism and poststructuralism while also criticizing them. This incorporation of contemporary theory could be Ahmad's strong point, as he is acutely aware of the essentialist and reductionist implications of Second International Marxism. This could be a double-edged sword, as contemporary theory also shows limitations of the Marxist analysis that the author sought to preserve. Finally, Ahmad used India—both colonial and post-colonial—as an illustrative strategy to make his point. Perhaps he limited his discussion to India because of expertise in the area, but this focus narrows the scope of the study, such that the dangers of homogenizing the *entire* Third World become very apparent. Despite these minor problems, Ahmad's study is a brilliant contribution in Marxist literary criticism and deserves wide reading.

*Ballots and Barricades: Class Formation and Republican Politics in France, 1830–1871.* By Ronald Aminzade. Princeton, N.J.: Princeton University Press, 1993. Pp. xiv + 321. \$49.50 (cloth); \$18.95 (paper).

Samuel Cohn  
Texas A&M University

Ronald Aminzade's *Ballots and Barricades: Class Formation and Republican Politics in France, 1830–1871* is a book very much in the mold of E. P. Thompson's *Making of the English Working Class* (New York: Vintage, 1966). In many ways, Aminzade's book is at least as good as Thompson's classic. Both books are narrative accounts of the process of the formation of the working class over half a century of early capitalism. Thompson studied Britain from the French Revolution to the Reform



Bill of 1832. Aminzade studies three cities in France, from the 1830 revolution to the Communes of 1871. Both chronicle in nuanced detail how larger economic forces created both the need and opportunity for workers to defend themselves against impoverishment. Both describe how workers chose between radical or reformist solutions to their problems. Both conclude with an explanation of why workers participated in an explosive but doomed revolutionary struggle that resulted in a mobilized working class within a liberal democracy.

Being a pioneer, Thompson had to lay out the basic facts of the relationships between proletarianization, religion, repression, and class formation. Because these larger claims are now well accepted for both England and France, Aminzade can concentrate on less global arguments. However, there is a lot of meat on those smaller bones. In particular, Aminzade focuses on the relations among radicals and reformists in the French left, more specifically among liberals, socialist sympathizers, and radicals (an intermediate position) within the French Republican party. Normally, histories of disputes within the left are thin stuff. Aminzade's accomplishment is to link intraleft rivalries to objective class structure and to show that these things really mattered.

In a nutshell, Aminzade contrasts Rouen, which saw no major insurrections during 1871, with Toulouse, where both moderates and socialists rose up together, and with Saint-Étienne, where revolts were supported by the far left only. In Rouen, the left was too weak to rise up, having failed to obtain enough control over municipal offices to provide local state support for insurrectionists. A large white-collar population and the mismatch of a sexist male labor movement confronting a female labor force assured a divided working class in the face of a strong antilabor *petit bourgeoisie*. The only viable leftist movements were reformist. In Toulouse, bourgeois republicans won early political office and then, as authorities, repressed subsequent strikes by local workers. This unified the working class and the out-of-power bourgeoisie into an authentically leftist opposition. In Saint-Étienne, where the proletariat was large enough and unified enough to elect leftists, republican politicians were not able to gain office without working-class support and thus eschewed repressing strikers. Thus in 1871, there were both officeholders who could support insurrectionists they were not wholly in sympathy with and working-class fractions content enough with local government to be willing to tolerate the status quo rather than rush to the barricades. I generally believe Aminzade's account of these cities.

The charm of Thompson's book was that it laid out a series of social changes that, although they applied primarily to Britain, had great power in explaining class formation generally. How does *Ballots and Barricades* do on external validity? Aminzade is correct in his claims that class conflict is complex; many of his propositions on the links between class composition and the electoral viability of different types of leftists are also fine. However, explaining revolutionary class action in terms of access to municipal power by leftists is questionable. Even Aminzade

admits that the primary causes of the Communes were the same proletarianization and foreign policy concerns that have motivated the orthodox historical accounts, and there are plenty of revolutions where the workers or peasants were wholly out of political office.

More disquieting is Aminzade's use of narrative as argument. To make a good story, Aminzade recounts his events in chronological order to give readers a sweeping sense of the complex interplay of class and political forces. This makes a grand tapestry but tends to obscure the causal structure of his model. He does not point out the differences in revolutionary behavior that are the ultimate dependent variable of his study until near the end of the book. Within every chapter, antecedents (independent variables) are fully discussed before there is any reference to consequences (dependent variables). As a result, we read story after story without knowing what we are looking for or what causal claim is being made. You have to read the book twice: once to find the argument, the second time to evaluate the evidence. Because most readers will not bother to reread, Aminzade may win his debates by default. Such evasive prose is unnecessary even in a narrative.

Though Aminzade's rhetoric could be better, his history is excellent. In this case, the facts do match up with the claims, and the claims are important. This study is a solid piece of contextually grounded class analysis.

*Protecting Soldiers and Mothers: The Political Origins of Social Policy in the United States.* By Theda Skocpol. Cambridge, Mass.: Harvard University Press, 1992. Pp. xxi + 714. \$34.95.

John Mohr  
*University of California, Santa Barbara*

This extraordinarily impressive book makes a fundamental contribution to the history of the American welfare state. Skocpol has two main arguments, both of which are conveyed in the book's title, *Protecting Soldiers and Mothers*. First, in contrast to decades of received wisdom about the miserly character of federal welfare spending before the New Deal, Skocpol argues that the United States was not a "welfare laggard" but, on the contrary, a "precocious welfare state." This was because the pension programs created to assist the veterans of the Union army were an enormously important state welfare program, an insight that has been obscured by our tendency to equate welfare expenditures with workingmen's insurance programs. Three facts bolster her argument. First, she notes that a surprisingly large number of people were supported by veterans' pensions (by 1910, some 28% of all men 65 and older were recipients). Second, the benefits were quite generous by international standards of the time. Third, these expenditures represented a substantial portion of the federal budget (over 40% in 1893).

Her second argument concerns mothers. Again, she advises us to surrender our preconceived notions about what welfare states look like, thereby encouraging us to notice that there was a second significant wave of social legislation enacted before the New Deal. This time the beneficiaries were mothers. Here she points to three early 20th-century developments of what she refers to as a "maternalist welfare state": (1) the widespread passage of protective labor laws for women, (2) the rapid spread of "mothers' pensions" laws, and (3) the creation of the federal Children's Bureau (in 1912) and the passage of the Sheppard-Towner Act to provide health-care services for mothers and children (in 1921).

Between these two segments of the book, Skocpol examines attempts that were made to push the United States to adopt various "paternalist" social insurance programs of the sort that were being enacted in Europe—unemployment insurance, old-age pensions, health and disability insurance, and industrial accident compensation. In spite of the best efforts of social reformers, all but the last of these initiatives were defeated.

Why did things work out the way they did? Why did soldiers and mothers fare so well while male wage earners had such little success? This intellectual puzzle is the real subject of Skocpol's book; it is a puzzle she solves by focusing on the way political institutions work. Using a "structured policy" approach, Skocpol explains the outcomes of each attempt to promote a legislative program by looking at how power and influence were marshaled on both sides of the debate. What she discovers among all successful legislative efforts is a particularly good fit between the organization of interest groups in the polity and the configurations of power in the state. When this fit occurs, groups are able to gain extraordinary leverage over legislative outcomes.

Such a fit occurred in the last decade of the 19th century when a tightly competitive, patronage-oriented party system came together with a broad cross-class coalition of Civil War veterans. A much expanded veterans' pension program was the result. Similarly, a fortuitously good fit occurred after the turn of the century between a newly constituted post-patronage political regime and the efforts of middle-class women who advocated the adoption of maternalist social policies. Two factors were especially important here. First, since they could not vote, women activists tended to avoid casting their demands along traditional partisan lines and relied instead upon a broad-based moral appeal to the needs of "sacred motherhood" that proved to be a particularly successful means of bypassing both legislative and judicial resistance to change. Second, women were effectively organized into a complex network of federated clubs and associations that provided an especially useful means of generating grassroots support.

The very ambitiousness of Skocpol's project ensures that there will be much to criticize. In particular, many will be unhappy with her bid to move political institutions to center stage. While she does not discard class, gender, or elite formation as explanatory variables, she does insist

on treating them as crucially mediated by political processes. Others will be dismayed with her inattention to the enormous historical literature on charities, social workers, and municipal politics. Again, it is not that she ignores these social processes, but her interest is limited to their effects on social legislation. In a sense, the narrowness of Skocpol's focus in such matters is both the greatest strength and the most visible limitation of this book. It is a strength of the project insofar as it allows her to maintain a theoretical coherence and consistency of vision that convincingly spans 50 years of American social policy. But it is also a limitation in that one is frequently left with the sense that there are a great many determinative social forces left out of the model. Where, after all, do all these groups and coalitions and ideas come from that meet in such a clash at the political center? To her credit, Skocpol makes various efforts to account for these social forces. She is especially interested in the way that previous legislative outcomes feed back into later conflicts, either as ideological formations (in the way that, for example, both sides of the social insurance debates appropriated images of the soldiers' pensions as legitimating devices) or as factors promoting the formation of group identities, political coalitions, and state capacities. These efforts, though, are less fully developed than and necessarily less central to what is, arguably, Skocpol's primary concern with constructing a middle-range theory of political institutions. What is ultimately most striking about this book is how Skocpol has succeeded in advancing this theoretical agenda while simultaneously offering a distinctive alternative history of the American welfare state. Whatever else may be said of these efforts, Skocpol has clearly written a landmark book, one that has already fundamentally reshaped the way that scholars think about the historical origins of American social policies.

*Entitled to Power: Farm Women and Technology, 1913–1963.* By Katherine Jellison. Chapel Hill: University of North Carolina Press, 1993. Pp. xvii + 217.

Jane M. Pederson

*University of Wisconsin—Eau Claire*

The 20th century's technological transformation of agriculture has been a subject of considerable scholarly analysis from a variety of perspectives and for diverse purposes. Few, however, have considered the dramatic revolution in agriculture in relationship to women. Katherine Jellison's excellent book is an ambitious effort to redress this oversight. Jellison examines the political, economic, cultural, and social dimensions of the adoption by farm families of the technologies of communication, farming, and household production. She artfully weaves together the purposes and practice of political policymakers, manufacturers and advertisers, and farm women and men. The title, *Entitled to Power*, suggests two impor-

tant and interrelated themes: the appeal and acquisition of technological power by farm women and the implications of the new technologies for women's power within the patriarchal farm family.

Focusing primarily on the midwestern Farm Belt, Jellison organizes her topic chronologically into periods: Progressive Era, 1920s, Great Depression, 1940s and World War II, and postwar era. From the passage of the Smith-Lever Act in 1914 until the 1960s, policymakers and advertisers consistently promoted labor saving technologies for the farm and household as a means of easing women's workloads and of advancing the ideals of separate spheres and rural domesticity. Farm women, like urban women, were to be homemakers and consumers. Educators, policymakers, extension workers, advertisers, Country Life progressives, New Dealers, and manufacturers all consistently defined women's roles more narrowly than did farm women themselves. Despite the barrage of prescriptive propaganda, farm women tenaciously rejected the narrowing of their roles to homemaking and domesticity. Like 19th-century rural women, they chose to retain their roles in agricultural production, which assured them greater authority within the family.

Jellison's work challenges a common assumption of academics about gender and farm work. It has often been argued that, as agriculture modernized and market production grew in importance, women withdrew from the fields and barns, leaving money-making work to men. Consumerism, production for use, and domesticity became women's sphere. But Jellison found bourgeois gender expectations and prescriptions met resistance from farm women who recognized the irrelevance of separate sphere ideals to their reality. Farm women regarded Extension Service agents and other ideologues of rural domesticity as invariably impractical and foolish. Instead, they went their own way and set their own priorities, which often were in accord with their husbands'.

In the 1920s women and men generally shared the belief that mechanized farm production, automobiles, and telephones should take precedence over modernized homes. Machines enhanced women's lives and work as they did men's, because women were integral to production. The dependence on family labor stimulated a perception and an ethic of mutuality. Women saw the modernization of farm production as in their own and their families' interest. Though women in the 1920s desired modernized homes, they perceived the acquisition of household technology not as a means to claiming the identity of the much propagandized ideal of modern homemakers but as a symbol of their status and power, as recognition of themselves as partners with men in farming and of the value of their productive roles. Women desired the new technologies, and a few acquired them when they had the means to do so, but they rejected the domestic ideology.

Depression-era women, not surprisingly, concerned themselves primarily with economic survival but continued to make gains in modernizing their homes and farms. For women, the lack of household technologies symbolized rural poverty, and the acquisition of them signified

prosperity and economic justice for farm families. Postwar prosperity finally created modernized rural homes that differed little from those of urban women. But even in the heyday of the "feminine mystique" in the 1950s, farm women did not embrace the domestic ideology. As household technologies freed women's time for other things, they used it to expand their roles in farm production; women climbed up on tractors and replaced hired men and children as farm workers. In deference to domestic ideals, women now talked about "helping out" men but in essence continued their role in farm production. Growing numbers of farm wives also "helped out" by getting off-farm jobs, which often sustained the family and farm through hard times, much as their poultry, eggs, and gardens had done in the past. Though in some instances rural women offered a superficial deference to domestic ideals, their real claims to power rested on the choice to keep a hand in production.

Jellison has written an important book. It is the first serious overview of technology, public policy, and the media in relationship to rural women. As such it fills a large gap in the history of women and of rural people, where ideology, theory, and stereotype have too often substituted for substantial research and knowledge. This excellent, readable book should be of interest to anyone concerned with either gender or rural life.

*The Lost World of the Craft Printer.* By Maggie Holtzberg-Call. Urbana: University of Illinois Press, 1992. Pp. xviii + 227. \$27.50.

Robert Max Jackson  
*New York University*

In this book, a folklorist interprets the culture of printers through old men's (and, rarely, women's) reminiscences. The men who used to set type for printing are a disappearing breed because computer technology has displaced mechanical type. Holtzberg-Call has done a service for the study of the history of occupations. With this book, she has allowed some of these old printers to tell us how they worked, how they thought about their craft, and what they felt about the passing of their occupation. This is a good source for arcane printer's jargon, and the author gives the reader a real sense of what it is like to operate a typesetting machine. However, the book does not offer theoretical insights on the organization of skilled work or the identity of skilled workers.

For centuries, printers were the educated elite of the skilled trades, but they have been on the defense for over a century. The makers of books and newspapers were consistently well-read and more knowledgeable than other wage workers. Before mechanized typesetting invaded printing at the end of the 19th century, journeymen printers knew they had a good chance to become independent master printers. The creation of a permanent wage-labor occupation in typesetting induced printers to become pioneers in the creation of modern craft labor unions. Even after

mechanization, much printing work was sufficiently varied and technically difficult that employers found it neither economically nor strategically sensible to make an all-out war on the skilled printer's autonomy. Instead, the printer's tasks were divided according to their openness to standardization (which partially depended on the scale of operation common in different types of printing). Where the variability of typesetting or time pressures (especially in newspaper printing) made employers more dependent on the typesetter, the craft retained its occupational autonomy and skilled aura. Elsewhere, less skilled labor handled the more routine work. Over the past century, the skilled printers fought with dignity and pride to keep their identity even as technological and organizational developments continually eroded the value of their skill.

This is the historical context that Holtzberg-Call brings to life by recording the memories of men who were printers in the middle of the 20th century. These men describe their work, their relations with other printers and their bosses, and their reactions to the passing of their trade.

At its best, this book gives us more than a pleasant tour through the work world of printers, showing us what they did on the job. The printers share their feelings about this work. As we see how the printers understood their work, we begin to grasp the depth and power of the printers' craft identity. They did not hold jobs in printing; they were printers! This experience of identity in a craft is crucial and not well portrayed through more sociologically conventional studies.

Unfortunately, the author does not go further than this. Her occasional efforts to give theoretical depth to her account make the narrative ponderous without producing new insights. Fortunately, these difficulties are a minor part of the book.

What value does this book have to sociologists? The occupational sociologist may benefit from the richly described experience of a craft identity conveyed in this book. Others may find the book valuable for classes on occupations, as the material is readily accessible.

*The Craft of Justice: Politics and Work in Criminal Court Communities.* By Roy B. Flemming, Peter F. Nardulli, and James Eisenstein. Philadelphia: University of Pennsylvania Press, 1992. Pp. xi + 217.

Celesta A. Albonetti  
*Texas A&M University*

In *The Craft of Justice: Politics and Work in the Criminal Courts*, Roy Flemming, Peter Nardulli, and James Eisenstein describe the social, political, and organizational context of criminal courts, using data from questionnaires and interviews obtained from prosecuting attorneys, defense attorneys, and judges in nine courthouses and records from both courts and prosecutors' offices. The authors use general conclusions from their earlier two works on the same criminal courts, *The Tenor of Justice*

and *The Contours of Justice*, to provide assumptions for the present case study. Of the four conclusions listed in this book's introduction (pp. 18–19), the following one appears to provide the organizing focus: "Courtroom diversity depends much more on the social and political dynamics of the courthouses in medium-sized courts than in large courts. Because of the importance of the court community, it becomes an important arena for the interplay of institutional interests" (p. 18). This assumption places Flemming et al.'s work well within the new legal pluralism perspective that takes as its subject matter the varied and complex relationships between official and unofficial forms of ordering.

In *The Craft of Justice* Flemming et al. use the metaphor of the courthouse community, developed in *The Contours of Justice*, as the context for explaining the interplay between courthouse actors. According to the authors, the craft of justice has little to do with legal training but rather with strategies for building a career, succeeding in court, leading an organization (e.g., a prosecutor's office), and constructing institutional relationships. Flemming et al. use case studies to describe the daily business of processing criminal cases against the backdrop of these critical concerns. In my judgment, *The Craft of Justice* is more about the pragmatic processing of street-level crime than about the craft of doing justice.

The three main sections of the book describe the political and social aspects of the craft of doing the work of chief prosecutors and assistant prosecutors, judges, and defense attorneys. In the chapter on chief prosecutors, Flemming et al. focus on how chief prosecutors organize their offices for political purposes. Borrowing from Philip Selznick (*Organizational Weapon* [New York: McGraw-Hill, 1952]) and W. C. Ouchi ("Markets, Bureaucracies, and Clans," *Administrative Science Quarterly* 25 [1980]: 129), the authors relate administrative characteristics and office policies and attitudes toward case processing to three prosecutor organizational strategies. Their point is that chief prosecutors can use their organization as a major policy tool that other courthouse community actors must reckon with. Flemming et al.'s description provides useful insights about the consequences of each organizational strategy for the courtroom work of assistant prosecutors but stops short of exploring their consequences for the craft of defending and the craft of judging.

In the chapter on the craft of assistant prosecutors, Flemming et al. describe how assistant prosecutors use their courtroom experience and informal interactions with judges and defense attorneys to construct a professional reputation within the courthouse community. Without this credibility, the assistant prosecutors' ability to effectively negotiate guilty pleas is jeopardized.

In the two chapters on the craft of judging, the authors relate three types of court social organization—collegial, competitive, and conflictual—to court policies regarding docket management and general case-processing decisions that affect the allocation of time and work among judges. Again, Flemming et al. offer a conceptual scheme that promises



to encourage future research on the interplay between judicial autonomy and the institutional interests judges share as members of a collective within the courthouse community. However, the conclusion that the court's social organization affects the court's status and influence within the courthouse community is problematic. The case studies presented here do not offer empirical evidence to support this conclusion.

In the second chapter on judging, Flemming et al. describe the bench craft of moving cases through the criminal justice system and four styles judges use to police the process of obtaining a guilty plea. The authors' findings support earlier research on the wide latitude of discretion judges enjoy and the uncertainty such discretion creates for prosecuting attorneys and defense attorneys. This chapter offers valuable insights about both how judges organize their work and the consequences of judicial styles for criminal case processing.

Much research on the relationship between defense attorneys, prosecuting attorneys, and judges has shown the importance of avoiding conflict to a defense attorney's reputation and career. Flemming et al.'s case study of the craft of defending supports this conclusion. Flemming et al. add to this existing body of research a well-documented account of how economic and political concerns dilute the adversarial nature of defending.

*The Craft of Justice* is firmly within the rich and informative tradition of the work of such sociolegal scholars as David Sudnow, Abraham Blumberg, Herbert Packer, and W. Boyd Littrell. These researchers focused on how criminalization is a socially constructed process and debunked the assumptions of proponents of legal formalism. One significant difference stands out in *The Craft of Justice*. In contrast to earlier studies that viewed the formal legal procedures as the backdrop of informal workings of court actors, Flemming et al.'s research suggests that legality does not significantly inform an understanding of the interdependencies among the three principal courthouse actors. In my judgment, their assertion is somewhat doubtful and may be the consequence of relying on the actors' accounts of their own actions. For example, legality in the form of rules of evidence may be part of the "taken for granted" context of doing the business of case processing. If so, reliance on actors' accounts may miss an important factor contributing to strategies pursued by each courthouse actor.

Early in the book, the authors define their goal to be that of merging micro-level behavior of court actors with macro-level processes of the courthouse community. Though such a goal is difficult to obtain, *The Craft of Justice* achieves it. The authors' work is a rich case study of the social organization of the work of processing criminal cases and, as such, provides sociolegal scholars with valuable concepts and insights into both the routinization of criminal case processing and the professional and social context from which interdependencies arise and are maintained among the key courthouse actors.

*Urban Politics and Policy: A Comparative Approach.* By Harold Wolman and Michael Goldsmith. Cambridge, Mass.: Blackwell, 1992. Pp. ix + 256. \$49.95 (cloth); \$19.95 (paper).

Edward J. Blakely  
*University of California, Berkeley*

Harold Wolman and Michael Goldsmith open their book on contemporary urban politics in Britain and the United States with a special salute to American jazz artists, including Fats Waller, Benny Goodman, and Duke Ellington. Jazz provided the background for the authors in their very difficult task of describing the political dimensions of local government in the United Kingdom and the United States. Jazz supplies a useful metaphor: American and British local institutions have the same notes and chords that are played in a multitude of similar styles and with only one controlling tempo.

American and British local government would appear to be relatively similar. Most of the vocabulary and the institutional form of local government in the United States are borrowed directly from English traditions. For example, the terms *county*, *sheriff*, *council*, and the like are derived directly from England. The early colonists did not change most of this nomenclature before or after the Revolution. In fact, local government has always been the bedrock of the American political system. It is the institution that most citizens know about, see, and use. Yet the authors of this volume felt, quite correctly, that they required a justification for their offering. National politics dominate local events.

Nevertheless, Wolman and Goldsmith argue that urban politics as practiced through local governments represent an important focal point through which to assess who gets what in the modern industrial state. Since most Americans and Europeans live in cities, urban areas provide the best place to view the working out of the nation-state's distributive capacity. The authors try to use local government as the vehicle of a combination of local and state policies in reaction to global and national economic and political dynamics and as a conduit for national policy. "Our . . . approach is to begin by stating that what is important is the well-being (or welfare) of residents within urban areas and to then ask what role local governments play in affecting that well-being" (p. 6).

The authors do not *presume* that local governments can alter urban residents' well-being; instead, they try to explain the extent of local effectiveness by examining subcomponents of urban welfare (citizen welfare, participation, decision making, etc.) in both countries from a comparative perspective. They try to mix empirical and normative approaches in making these comparisons.

Chapter 2 sets the stage for the comparison. In this chapter the authors outline the basis for their comparative framework. The normative background for understanding the role of local government in both nations is

the concept of the "minidemocracy." Local government provides the seedbed for democratic institutions and practices. It provides a healthy division of power that is the sine qua non of the Western nation-state system. Wolman and Goldsmith review the basic dilemma derived from the division of powers as reflected in other normative concepts, such as elitism versus pluralism, as well as the distributive capacity of the local state in a market system. They use a combination of reflective and comparative analysis to measure the role of local government as a real force in the two most widely imitated Western democracies.

In the subsequent chapters the authors present the measures that they use in their analysis. In chapter 3 they define and quantify urban well-being in both nations. Urban well-being, as they describe it, is related to the authority of local governments to levy and collect taxes and to spend that money on selected services for their residents. In the case of Great Britain local governments had, before the Thatcher era, a stronger ability to raise revenues via direct land and associated taxes than did U.S. local jurisdictions—21.3% of all U.K. taxes were local, while the parallel figure in the United States was 15.4%. It is hard to know what this means since the United States has both county and city forms of local government and the authors focus only on cities. Yet U.S. local governments are more autonomous and have the authority to expend their resources in almost any manner because they are recognized in state constitutions.

It is clear in chapter 4 that, even if local governments had all of the authority they desired, national and global trends would continue to dominate the world market system. The international market and new technology have altered the ability of localities to influence their future. As a result, the authors point out that the city-state is emerging as a response to weak national economic trends. This change gives localities power by default rather than through direct action. In chapter 5, this theme is amplified by describing how the city-state is emerging in both nations. The local state is taking matters into its own hands by becoming involved in economic development activities through zoning, the provision of infrastructure, and even by making direct business loans. Chapter 6 explores who benefits from local initiatives in both countries irrespective of the powers and organization of government. It is clear that elitist outcomes dominate both countries—in the United States the commercial elite; in Great Britain the political elite. In essence, local government serves the interests of those who gain control of it. The British and other Europeans see local government as miniversions of national political party politics. Americans have a very different orientation. For them, local politics are *strictly* local with little or no connection to the dominant political parties or to a national political platform.

The real question is whether the internal or external factors affect the delivery of services to citizens. In chapter 8, the politics of the process of service delivery is discussed. Whereas U.S. cities are really run by professional managers with the city council acting as a board of directors,

British local councils themselves manage local government. Restraints in both countries present so few options that any real alternatives for a locality are marginal at best. In chapters 9, 10, and 11 the authors discuss the variations among local governments in both countries with respect to actual welfare functions such as housing, job development, and industrial attraction. There is little doubt that there is convergence on many of these issues across the Atlantic. Housing is a far more important local responsibility in England than the United States. On the other hand, in both countries rising housing needs are leading to more market than welfare solutions. While the United States pioneered local economic development through the early Economic Development Administration and subsequently in Model Cities and Urban Development Action Grants, the British devised enterprise zones and enterprise boards. The transatlantic migration of these local economic initiatives is well documented. It is clear that decentralization of economic development capacity from nation-state to locality is a central government response to economic globalization.

The book ends rather predictably: the dominant factors affecting urban residents are well beyond the capacity of local institutions. On the other hand, the authors of this book show that in both form and style local governments in both countries are emerging as the vehicle for assessing and allocating scarce economic resources. However, the primary role of local government was never to govern but to act as the crucible for learning democratic values and skills.

I can recommend this book for students and instructors in upper division graduate courses. There is a limited amount of material that is new here, although some comparative statistics are presented in a fine, very readable compendium that would be of particular interest to a small audience. It is a fine review for newcomers to the issues.

*The Hollow Core: Private Interests in National Policy Making.* By John P. Heinz, Edward O. Laumann, Robert L. Nelson, and Robert H. Salisbury. Cambridge, Mass.: Harvard University Press, 1993. Pp. xix + 450.

Paul A. Sabatier  
*University of California, Davis*

The starting point for this book is the popular portrait of the "Washington heavyweight"—usually an attorney and former government official who has been around the capital for decades, knows all the key players, knows how to push the right buttons to serve his or her client, but also often serves a central mediating function in keeping threats to political stability under control. Clark Clifford and Robert Strauss come instantly to mind. Do these political heavyweights really exist? How much clout do they have? Are they part of a core political elite who dominate national policy-making? The authors' responses can be paraphrased: yes, to some

extent; probably no more than lots of other lobbyists; and rather than a central core group of actors in a policy domain there appear to be lots of specialists in specific subdomains competing for influence, but "the cores are hollow." Hence the title of this book.

Heinz, Laumann, Nelson, and Salisbury have put together a very impressive piece of empirical research that clearly supplants Lester Milbrath's *The Washington Lobbyists* (New York: Rand McNally, 1963) and Kay Schlozman and John Tierney's *Organized Interests and American Democracy* (New York: Harper & Row, 1986) as the definitive study to date of interest group representatives in the nation's capital. Their research design started with four policy domains—agriculture, health, energy, and labor—selected to represent a reasonable cross-section of domestic issues. In each of the four domains, the authors in 1983–84 interviewed samples of the leaders of approximately 100 organizations with Washington lobbyists, 200 lobbyists, and 100 government officials—for a total of almost 1600 interviews, 400 per domain. This far surpasses in scope and depth any previous study of interest group representatives in the United States.

Among the principal findings are the following: (1) In agriculture and energy, about 70% of the clients were businesses or trade associations; this dropped to about 30% in health, where nonprofit organizations and professional associations were very important; in labor, businesses and unions had comparable numbers of representatives; in all four domains, citizens groups, state and local governments, and minority groups made up 15%–20% of the clients (p. 63). (2) About 75% of the Washington representatives were employees of their client organizations rather than independent attorneys or consultants (pp. 65, 68). (3) With the exception of external attorneys, most representatives split their time (roughly 2:1) between public policy and internal organizational matters; their policy work tended to be focused within a specific policy domain and even subdomain (chap. 4). (4) The employment histories of lobbyists reveal that about 50% had governmental experience. The most interesting finding here is that representatives tended to spend their careers among *either* business or liberal and nonprofit organizations but not both (chap. 5), thus suggesting some ideological constraints. (5) Washington representatives tended to develop collegial networks among people working for similar sorts of organizations, but this was more common for representatives of liberal organizations (citizens groups and labor unions) than for business representatives (chap. 6). (6) Perceptions of allies and adversaries reveal that, except possibly for health, conflicts were perceived as long-lived and alliances as relatively stable. In labor, there was a clear division between labor and business, while in agriculture and energy there existed some division among business organizations but a more important cleavage between business and "external" groups, whether consumers or environmentalists (chap. 9).

Probably the most important set of findings is that a core policy elite did not dominate policy-making, either across domains or within specific

domains, in the early 1980s. First, the primary institutions contacted by lobbyists varied by domain, with the White House critical in energy, the cabinet members' offices and various congressional units critical in agriculture and labor, and a wide variety of congressional committees and party leaders in health (chap. 7). Second, an analysis of "notables" revealed no common set of core actors across the four domains. Within each domain, there tended to be two or three major coalitions or networks organized by similar interests or ideology (chap. 10). Third, an analysis of respondents' interests in a variety of issues during the 1977–82 period revealed that most representatives tended to focus on specific subdomains rather than to be interested in everything within a policy domain. In energy, for example, the subdomains included petroleum, coal, nuclear power, and conservation; in health, they involved food and drug regulation, finance and cost containment, specific populations such as children or the mentally ill, and university research (chap. 11).

This book has, of course, some limitations. Its scope is restricted to Washington representatives. It does not deal with lobbyists attempting to influence subnational units of the federal government, let alone local and state governments within the four policy domains. Thus, it rightly does not claim to be an analysis of policy networks but only the portions of those networks seeking to influence policy in the nation's capital. Second, the book lacks an explicit theoretical focus, which would assist the reader in understanding the authors' implicit assumptions and perhaps in reducing an enormous amount of data into a manageable number of conclusions. In their defense, the authors respond that they sought to avoid imposing a theoretical bias on the data and that, if the data come out mixed, so be it. While I think that is somewhat naive, the authors carefully investigate several different points of view. *The Hollow Core* represents a monumental piece of empirical research that will be required reading for anyone concerned with interest group representation in the United States.

*Sociology and Its Publics: The Forms and Fates of Disciplinary Organization*. Edited by Terence C. Halliday and Morris Janowitz. Chicago: University of Chicago Press, 1992. Pp. 429. \$29.95 (cloth); \$14.95 (paper).

Howard Schuman  
*University of Michigan*

The 12 essays that make up this collection are about the state of sociology today, how sociology reached this state, and prospects for the future of the discipline. Like the best of sociology, a number of the chapters are both informative and stimulating and well worth reading. Like the less appealing features of the discipline, the volume lacks cohesion, cumulativeness, and closure. Readers may wish to pick and choose among the chapters: here are some possible guidelines.

If you wish an expert discussion of how sociology departments and research centers are born and die, as well as how they differ, Halliman H. Winsborough's contribution is insightful in content and graceful in presentation. If you would like to know more about sociology's close relatives, Craig Calhoun offers a brief but knowledgeable tour around the social sciences, focusing mainly on anthropology and history, but touching also on psychology, political science, and economics. About Calhoun's claim that "the disciplinary division of labor in the social sciences is essentially arbitrary and largely the result of academic politics" (pp. 138-39), more below.

Are you interested in quantitative data, albeit of a gloomy sort, on recruits to the discipline? William V. D'Antonio shows that those who take the sociology test on the Graduate Record Exam have both verbal and quantitative scores well below those who take the tests for the five social sciences that Calhoun hopes will recognize their intellectual indistinguishability from sociology. Sociology's scores also seem to be worsening in both absolute and relative terms. Whatever the exaggerated claims for such exams as measures of general aptitude, they do say something important about the vocabulary, reading comprehension, and mathematical skills of the average student attracted to sociology.

From another empirical standpoint, Diana Crane and Henry Small report a complex analysis of cocitation data that suggests "the virtual disappearance of core areas in sociology" between 1974 and 1987. In addition, they find that sociologists draw increasingly on other social sciences (at least as indicated by economics), which may be good in itself, but are decreasingly drawn on by these other disciplines, which seems less good. There are a number of assumptions in this analysis hard for an outsider to assess, but the main results do not appear surprising in the light of other evidence in the book and elsewhere.

If you are curious about the extent to which sociology has been shaped by its sources of support over the years, several chapters discuss the issue at some length, with Martin Bulmer's suggestion of an "elective affinity" between foundation officers and sociology entrepreneurs being perhaps most persuasive. A chapter by Lester R. Kurtz, which otherwise seems out of place in the book, casts light on the issue by noting the minimal interest the discipline has had in military sociology, despite the availability of large amounts of money for such research; this observation hardly fits a simple "fundotropic" interpretation of sociology's history. Neil Smelser is probably more on target when he stresses the extent to which sociology is influenced by all sorts of social trends, whether these involve radical politics within the university or scientific emphases that have appeal to funding agencies in Washington.

Related to this same general issue is William Buxton and Stephen P. Turner's account of Parsons's attempt to secure support for sociology by having it function as a basic science on which professions like medicine would draw. The audience for sociology would then not be the wider public, but professionals from applied fields with high social standing

and access to resources for research. Buxton and Turner regard Parsons's attempt as having failed, in large part because sociology is not able to offer practical solutions for the problems it identifies in medical and other professional spheres.

Readers who like single-minded arguments for what sociology should or should not be will find three chapters of possible interest. The liveliest is Alan Sica's polemic against what he perceives as Janowitz's and Shils's belief that American society is becoming increasingly rational and humane—and ready to be helped further along this enlightened path by sociology. Sica's own views about the rationality and humaneness of contemporary America are best captured by his references to "electronically cretinized masses" (p. 356), "the colossal ignorance among American youth" (p. 358), and the "programmed viciousness of" the mass media (p. 357). As for sociology, Sica advises that it should give up its pretense to being a science and provide "interpretations of convincing narrative form" (p. 371) for a society bent on going to hell.

There are far fewer fireworks in Albert J. Reiss Jr.'s argument for a greater emphasis on more "direct observation of social life" as it occurs (p. 298), with the observations to be turned into quantified evidence as is now common with indirect methods of data collection (e.g., survey interviews). The point is eminently sensible, but has been made more convincingly elsewhere by Reiss in the form of empirical demonstration, rather than the more hortatory nature of the present essay. In addition, more needs to be said about the problems of direct observation, especially the opaqueness of much behavior when coded into analytic categories. Videotaping may provide a partial solution, as Reiss suggests, by allowing later analyses unanticipated by investigators, provided the practical and ethical problems can be resolved.

Least helpful of these single-minded chapters is a diatribe by Samuel Z. Klausner against contract research. One can sympathize with his desire to keep universities pure, but nevertheless find the chapter both repetitious and confusing.

Although several of the essays in this volume circle around the main causes of concern about present-day sociology, the primary editor of the volume, Halliday, may come closest to the heart of the matter. He notes that as an academic "occupation, sociology has no clear image or demarcated terrain of work outside the university" (p. 13), though I think one should add that the problem is the absence of a widely accepted "common sense" subject matter, such as political science has for government and politics, or anthropology for exotic cultures. It is only a few specialty areas *within* sociology, for example, family or population, that can claim common sense domain.

The lack of a simple taken-for-granted subject matter for sociology was not a hindrance in the days of Marx, Durkheim, and Weber, for, whatever the ultimate validity of their observations, they made powerful, nonobvious theoretical generalizations about society as a totality. Closer to our own day, Robert Merton and a few others have done something



of the same. However, few sociologists today aspire to work at anything like that level, seeking instead firm intellectual footing on much narrower ground. This, as Halliday remarks, makes sociology appear less as a single discipline and "more as an archipelago of poorly connected islands of specialization" (p. 25). For much the same reason, Calhoun's proposal that sociology should be reconceived as part of a larger, undivided social science will have its appeal to many readers. But the proposal may find few takers among political scientists and others who are more confident of their identity and more secure about their place in the academic world.

*Legal Construct, Social Concept: A Macrosociological Perspective on Law.* By Larry D. Barnett. New York: Aldine de Gruyter, 1993. Pp. xii + 182.

Robin Stryker  
*University of Iowa*

*Legal Construct, Social Concept*, by Larry D. Barnett, tackles an issue fundamental to scientific research and to policy-making: the relationship between legal doctrine and social context. Barnett advances the thesis that in that relationship, at least with respect to "social" phenomena (p. 162), law is a dependent, rather than independent, variable. Barnett develops this thesis through quantitative analysis of several legal arenas: age discrimination in employment, equal rights for males and females, contraception, abortion, and euthanasia.

Setting his "macrosociological perspective" against critical legal theory, Barnett's framework is both macro and functionalist. Barnett argues that critical legal scholars are right to think that legal doctrines represent social values but wrong to presume that "societal needs and patterns" (p. 4) do not determine legal doctrine. Barnett's goal is to show that new legal doctrine results from changes in social structure and values, which, depending upon legal arena and data availability, are operationalized by various demographic and attitudinal measures. For example, factors presumed important for evolving equal protection doctrine are changes in sex-role ideology and behavior. These are measured by women's access to higher education.

Maintaining that "verbal analyses of phenomena . . . are unavoidably imprecise" (p. 2), Barnett argues that evaluation of effects must be quantitative. Some of his analyses juxtapose verbal discussion of legal doctrine with time trends in indicators of relevant independent variables (see chap. 3). Some include logistic regressions in which causal inferences are drawn, for example, about consequences of changing legal rules governing contraception and abortion by modeling age-period-cohort influences on birth rates (see chap. 5). Barnett argues that by "assembl[ing] the most credible quantitative evidence" (p. 2), his book demonstrates: "the doctrines that govern issues in the legal system are determined by

the characteristics of society" (p. 16); "legal doctrines, being functional for the social system rather than disruptive of it, change as the needs and values of society evolve . . . they conform to its needs and values within a reasonably short period of time" (pp. 17–18); and "legal doctrine . . . does not initiate substantial change in [the social] system." (p. 17).

Barnett's call for interdisciplinary law and social science scholarship that offers strong theory and systematic evidence is well taken. Unfortunately, his own attempt is seriously flawed. He begins by equating crude functionalism with all macrosociology. Sociologists will be aware of other major approaches, including institutionalism, conflict theory, resource dependence, class analysis, population ecology, and more sophisticated functionalism. Barnett's failure to inform his perspective with reference to other approaches is unfortunate, because his book will be read by legal scholars and policymakers with little background in sociology. Falling into several of functionalism's possible pitfalls, Barnett reifies society and its needs, infers need post hoc, fails to consider how definitions of needs and responses may result from mobilization and conflict among groups with divergent interests and resources, and screens out the possibility of conflict following doctrinal change (see, e.g., his discussion of the "societal need for affirmative action," p. 17).

Barnett's explicit emphases on propositions, predictions, precision, and systematic theory construction and testing are welcome. However, he fails to make clear whether (which) propositions are to be untested assumptions or whether (which) propositions are to be derived predictions. The precision needed to conceptualize and operationalize propositions tightly and a priori is lacking. For example, how do we know what constitutes a "reasonably short period of time" in the above quoted proposition?

*Legal Construct, Social Concept* also has empirical shortcomings. Sociologists will find its quantification of changing legal doctrine crude and its identification, operationalization, and interpretation of relevant independent variables ad hoc. The suggestion that longitudinal analyses provide "definitive conclusions regarding causality" (p. 6) is incorrect. Most serious, the descriptions of analyses are confusing. For example, in chapter 5 (pp. 102–12) Barnett provides no statistical model(s). He states that his logit regressions included age, period (*year*), and cohort as independent variables to control for underlying social factors affecting birth rates, the dependent variable. But he then states that he added *year* dummies to social factors (which already included year) to capture "the setting and impact of a Supreme Court decision" (p. 104). The reader cannot judge whether it is the analytic strategy or description of it that is faulty.

To his credit, Barnett begins by stressing theory and solid evidence. He is willing to put his money where his mouth is by predicting what will happen in legal doctrine governing euthanasia (see chap. 6). In the end, many of his book's problems stem from failure to adequately specify the causal mechanisms by which functional adaptation of law to society

is presumed to work. Even if societies do have needs, these needs will not automatically be articulated and satisfied. That legal doctrine sometimes "feeds back" to society to reinforce prior conditions does not mean legal feedback is always reinforcing. Haç Barnett thought more about *how* legal actors and institutions identify social needs, construct possible and desirable legal responses, and find some responses facilitated and others inhibited by their social environment. he would simultaneously have gotten more benefit from, and seen the limits of, his starting assumptions.

*The Costs of Privacy: Surveillance and Reputation in America.* By Steven L. Nock. New York: Aldine de Gruyter, 1993. Pp. ix + 149.

Richard V. Ericson  
*University of British Columbia*

Steven Nock asks why surveillance mechanisms—"credentials," such as credit cards, driver's licenses, and educational qualifications, and "or-deals," such as preemployment screening devices and drug tests—are so pervasive in American society. His answer is that these mechanisms are "the costs of privacy." In late-modern societies characterized by increasing privatism, individualism, mobility, social distance, and anonymity, surveillance mechanisms are the only means by which strangers can establish reputations that permit trust in social relations. Since trust is *the* basis of social solidarity and at the heart of social order, surveillance mechanisms literally hold a privatized America together.

Nock proceeds by focusing on what he terms a new category of stranger: emancipated youth. As a sociologist of the family, he traces the shift from an early-modern America, in which youths lived either in families or in boarding houses with strong supervision, to a late-modern America, in which a substantial proportion of youths live on their own and can only be controlled by surveillance mechanisms. While he does not make reference to control theory in the sociology of deviance, Nock nevertheless adopts a control theory framework for understanding this population of emancipated youth. They are in effect a new dangerous class in need of surveillance controls because traditional family and neighborhood controls are absent.

Nock argues that the social structure adapts to these relatively autonomous individuals by monitoring them through institutional credentials and subjecting them to institutional rituals and rights of passage. As the population of emancipated youth has grown, so too has the requirement that they establish reputable identities through credentials, such as credit cards, driver's licenses, and college diplomas and through ordeals, such as lie detector, integrity, drug, and genetic tests. In the case of credentials, there is nothing new about their basic functions, but the technology has changed. For example, retail credit has always been extended, but credit cards change the ways in which it is extended, allowing portability

and mobility through literally carrying one's "creditable" reputation in hip pocket or purse. In the case of ordeals, however, there are both new functions and new technologies with profound implications for social structure and human relations. Regardless of their scientific validity, these mechanisms are treated as valid and are therefore increasingly used to exclude people from employment and from other institutions. Moreover, this exclusion snowballs, as denial of access in one sphere, such as employment, entails denial of access in other spheres, such as credit and the ability to afford higher education.

This book has considerable merit. The basic point, that surveillance and its control implications result from expanded privacy, is a corrective to the conventional wisdom that privacy is eroded by surveillance mechanisms. The distinction between "credentials" and "ordeals" adds conceptual refinement to the literature on surveillance. Literature reviews on the history and practice of credit cards, driver's licenses, educational degrees, lie detector tests, integrity tests, drug tests, and genetic tests as surveillance devices are also worthwhile.

The central problem with the book is Nock's narrow focus on how changes in family structure and youth emancipation are correlated with changing forms of surveillance. It is far too simplistic to attribute the rise in the surveillance mechanisms discussed to changes in family (dis)organization and the need to find substitute controls on youths. Perhaps because he approaches the topic from his specialization in the sociology of the family, Nock ignores basic literature that locates the rise of surveillance in other institutional spheres. For example, he does not consider the work of Anthony Giddens and Christopher Dandeker on how military, police, and business enterprise bureaucracies drive innovation and change in surveillance. He also fails to consider the recent work of Anthony Giddens, Ulrich Beck, Niklas Luhmann, Jonathan Simon, Robert Cassel, Daniel Defert, Francois Ewald, Patrick O'Malley, and others on risk society. This work links changes in surveillance to the ways in which all institutions are increasingly driven by the need to obtain, produce, and distribute knowledge useful in the risk management of their respective populations.

Had Nock considered the basic literature on surveillance and risk he would have appreciated that it is not marginal populations, such as emancipated youth, who are most subject to the forms of surveillance he describes. Indeed, it is the opposite. The less marginal one is, the more one has a plethora of credentials and the more one experiences the rites of passage of various institutional ordeals. This is the case simply because the better off are more mobile both socially and spatially and therefore have a much broader range of institutional commitments and entanglements. The greater one's reputation, the greater the surveillance in a greater number of institutions. The more one is trusted, the more one is subjected to surveillance mechanisms that routinely document that one is to be trusted.

Given Nock's special interest in emancipated youth as the new danger-

ous class, it is peculiar indeed that he did not consider institutions more specifically charged with regulating them. American Express, Visa, and Mastercard cannot be given too much credit for the surveillance of marginal and disreputable youth populations, but American welfare, penal, and health systems can be given such credit. Instead of analyzing surveillance systems most directly involved with the marginal and disreputable, Nock studies systems geared to the most central and reputable: credit card companies, institutions of higher learning, licensing agencies, and major employers. Moreover, he does not even address in detail how these surveillance systems for the respectable actually work to exclude people and thereby help to constitute marginal populations. Why focus on surveillance mechanisms for creditworthy jet-setters when one's interest is in discredited bench sitters?

Nock also fails to consider ways in which reputations are read from sources other than surveillance technologies. Retail clerks, employers, private security officers, and police officers, among others, still rely on interpersonal demeanor in forming moral judgments and making decisions. For example, countless studies of police decision making show the importance of a suspect's demeanor in assessing her or his reputation and how this reading of demeanor is frequently used to override negative information available through computerized police information systems. Surveillance technologies provide signs of reputation and one basis for assessing trustworthiness, but trust still depends on more direct signs of moral character and how they are interpreted in specific contexts of practical action.

*The Seventh Stream: The Emergence of Rocknroll in American Popular Music.* By Philip H. Ennis. Hanover, N.H.: University Press of New England, 1992. Pp. xii + 445.

Richard A. Peterson  
*Vanderbilt University*

This book is rich and multifaceted. Though its subject is the emergence of rock music and its culture, the first one-third of the volume describes the emergence and development of six increasingly distinct streams of music from the beginning of this century to the birth of rock in the 1950s. Ennis focuses on three commercial streams he calls popular, black pop, and country pop and on three more communal streams he identifies as gospel, folk, and jazz. While each, Ennis shows, has a distinct ethos as well as artistic and economic system, they commingle from time to time, revitalizing each other. Ennis's greatest contribution here is to show that the streams are most likely to influence each other when their systems of production become homologous.

Describing the nature of the six streams and their evolution over 50 years in the space of just over 100 pages, Ennis makes enough overgener-

alizations to set any expert's teeth on edge. Having made the case for musically and organizationally distinct streams, however, he is able to show how the six streams became more nearly aligned as commercial entertainment in the 1950s and how each contributed to the fusion that became rock.

Ennis attributes rock's spectacular eruption to changes taking place in the commercial music industry following World War II, changes that diluted the power of New York-based publishers, major record companies, Hollywood movie studios, and network radio. In each of these areas numbers of "independent" companies emerged and gained strength by catering to the unmet entertainment desires of a largely youthful audience, which responded enthusiastically to attempts to draw into pop music elements drawn from an amalgam of country music and rhythm and blues.

These developments have been detailed before, and Ennis cites the most relevant books, but he ignores the scholarly articles that make many of the points most clearly. His most important contribution is his close analysis of how in the early 1950s the powers of the entertainment industries, who collectively controlled what pop music could be, reacted—and failed to react—to the changes going on around them. Based on a study coauthored in 1953 with William McPhee and Rolf Meyerson, and backed by a thorough reading of the trade press of the era, Ennis gives an excellent picture of the emerging role of the popular music radio disk jockey and the mix of market forces and career contingencies that led some DJs to experiment with the emerging youth-oriented music that came to be called rock. Ennis also provides useful documentary evidence of the oft-told story of the music industry establishment's attempts to suppress rock.

Moving forward a decade, Ennis describes how rock matured as a distinct stream of music during the 1960s. Here his focus shifts from the media industries to the increasingly self-conscious youthful musicians, fans, and rock critics. He provides a number of interesting ideas deserving of further detailed exploration about the rift between the political new Left of the SDS and the cultural revolutionaries of rock but is mute on the role of rock in the civil rights movement. Along the way Ennis repeats a number of the unanalyzed—and I think false—beliefs of the era, for example that Woodstock was a *good* festival but Altamont was a *bad* one because bikers killed a celebrant. Most importantly, he skirts the big question of rock's role in galvanizing opposition to the Vietnam War. The cultural cadres of the old left never supposed that singing any number of folk or radical labor songs would change people, and the political new left was deaf to all commercial music. It is possible, however, that the overreaction of the political establishment to the music-driven displays of the youth, as much as the fact of millions of young people, many in uniform, caught up in the rock culture and wearing peace signs, made the prosecution of the war politically untenable.

In the penultimate chapter Ennis says that by 1970 rock had become

fully established as the "seventh stream" of American music, distinct from pop and the others. He does not consider the alternative—and I think more accurate—interpretation that by that date rock was well on its way to merging with and effectively displacing the older pop to itself become *the* pop stream. In this latter view, the rock revolt of the 1950–70 period represented a large whirlpool that mixed all the streams so that each was irrevocably changed as it came out downstream of the maelstrom. This is not to say that there were no differences between the 1970s music of Elton John, Stevie Wonder, the Bee Gees, and Led Zeppelin, but, and this is how Ennis defines "streams," they had a common ethos and operated within the same artistic and economic system.

As an engaged general introduction to the ebb and flow of 20th-century American popular music as commerce and as politics, this book has much to recommend it. At the same time, the statements about the early developments of commercial and vernacular music other than pop and rock should be accepted with caution. *The Seventh Stream* is an important contribution to the developing literature in the production-of-culture perspective that focuses on how the content of cultural symbols—in this case popular music—is shaped by the ways in which it is made and distributed. The book also provides interesting case material for the population ecology approach to organizational sociology.

*Banking on Fraud: Drexel, Junk Bonds, and Buyouts.* By Mary Zey. New York: Aldine de Gruyter, 1993. Pp. 306.

Kevin J. Delaney  
*Temple University*

Mary Zey has given us an exhaustively researched and well-written book on the activities of Michael Milken, his firm Drexel Burnham, and the network of associates that helped Milken create the junk bond market that fueled the mergers and acquisitions craze of the 1980s. Zey's main argument is that fraud is socially embedded and that Milken was only able to commit the acts he did (both fraudulent and nonfraudulent) with the help of an entire network of friends, most notably financier Ivan Boesky. Zey carefully and systematically shows how Milken activated these networks whenever a major deal was in danger of falling through. For example, when Milken was advising Harris Graphics, he instructed Boesky to buy 5% of Harris's common stock. He guaranteed Boesky against any loss should the share price fall and agreed to split the profits with Boesky in the event the stock increased in price. Boesky's active purchasing of Harris alerted the firm's management that an unfriendly takeover might be in the works. At the same time, Drexel was advising AM International on potential acquisition candidates. Drexel presented AM to Harris as a friendly "white knight" that could rescue Harris from Boesky's clutches. Milken profited on the Boesky stock purchase when

Harris was put into play and from the Drexel employee partnership fund (in which Milken was heavily invested), which also earned money on the run-up in Harris stock. At the same time, Drexel earned substantial fees on the eventual takeover by AM International. For those still wondering how Milken could have personally earned over \$550 million in a single year, this is how it is done. So much for neutral markets and the invisible hand.

The image Zey leaves us with, I think, is the correct one: Milken did not commit illegal acts to earn any particular sum of money; the amount he earned through fraud probably meant little to him personally. Instead, he committed these transgressions because he *always* wanted the deal to succeed. But, as Zey points out, ego and blind ambition were only part of the reason each deal had to succeed. If just one of Milken's deals had fallen through, he would have lost his reputation as the "junk bond king," opening the door to competitors eager for a piece of Drexel's business. Remember, in the 1980s, Milken's "highly confident" letters virtually guaranteed that he would raise funds to do the deal. If a Milken deal fell through, some might have discovered that it really was just a little man behind the curtain, not the Wizard of Oz after all.

But the book is not just about Milken and his ambitions, it is also about the entire era of the 1980s, the creation and collapse of the junk bond market, the connection between junk bonds and the savings and loan crisis, and the political access of Milken, Drexel, and other powerful financiers. Zey does a nice job explaining the consequences of the junk bond crash for a variety of groups. Some of the more notorious savings and loans were big buyers of junk bonds but so too were a few insurance companies, pension funds, and mutual funds. While Milken deserves some of the blame for what Zey describes, one also wonders about the financial acumen of those who bought Milken's junk bonds. When the market eventually collapsed in 1989, so too did many of the institutions that had invested heavily in high-yield bonds.

Zey situates her insights in the debates over theories of corporate and bank control and of structural embeddedness, arguing forcefully against neoclassical explanations of markets and market creation. This book contains many insights and connections to an array of theories, and while I was reading it I kept thinking that graduate students could pursue many of these ideas as entire dissertations. While Zey is unable to "test" these theories with a single case study, the reader will learn what the Drexel case tells us about each of them.

The only drawback to this important work is that it is, at times, sprawling, and the reader who is not fascinated by the intricacies of financial manipulation might get lost in the early details of various Drexel deals. But for readers who stick with the story, there will be a great payback, as Zey skillfully connects the specific aspects of Milken's actions to a wide array of sociological and economic theories. In particular, she shows how inadequate agency theory is when viewed through the case of Drexel. Agency theory does not end up giving us a new, highly efficient



corporate structure linking pay to performance but instead a highly corruptible organizational form.

*Stealing into Print: Fraud, Plagiarism, and Misconduct in Scientific Publishing.* By Marcel C. LaFollette. Berkeley and Los Angeles: University of California Press, 1992. Pp. viii + 294. \$30.00.

Allan Mazur  
*Syracuse University*

For years a story circulated about two paragons of physics, Nobel Prize-winning physicist Hans Bethe (pronounced *beta*) and famed mathematician George Gamow. It seems that Gamow and another scientist, named Alpher, had written an article and sent it to Bethe, asking that he join them in authorship. Bethe agreed, although he had made no contribution to the paper, so that the authorship line would read "Alpher, Bethe, Gamow." The story is true, as Bethe attested to me.

I used to think that the significance of this anecdote lay in what it told us about the scientific sense of humor. Now I think it is more important as an example of behavior that was once regarded as wholly moral and worthy of applause but if done today would be regarded by many as research misconduct, perhaps even as plagiarism.

The folklore of science contains famous episodes of far more blatant misconduct, usually cited as oddities of science. Within the past decade, however, as a few spectacular cases have attained widespread public attention, suspicion is growing that such deviations are fairly common. There is an intense ongoing debate in government and scientific institutions about the nuances of scientific misconduct—how to define it, how to investigate it, and what to do about it when one finds it. Proposed guidelines for misconduct cases are so diverse, ambiguous, and transient that it is often difficult to know how one should proceed. I hope that Professor Bethe remains unashamed of his youthful shenanigans, but an untenured assistant professor would be foolish to try that stunt today.

In *Stealing into Print*, Marcel LaFollette provides an admirable up-to-date survey of the complex and changing issues surrounding research misconduct. Earlier books by William Broad and Nicholas Wade (*Betrayers of the Truth* [New York: Simon and Schuster, 1982]) and by Alexander Kohn (*False Prophets* [New York: Basil Blackwell, 1986]) narrate some of the best-known cases of scientific fraud with the excitement of tabloid exposés. LaFollette takes a different course, implicitly assuming that the reader is familiar with these cases and going far deeper into the practical and ethical dilemmas one faces when confronted with an accusation of research misconduct.

Rather than attempting to cover all the angles, LaFollette attacks the misconduct problem from the viewpoint of a scientific journal editor, a perspective well informed by her years as editor of *Science, Technology*

*and Human Values*. This focus necessarily ignores other arenas for research misconduct, such as the federal system of research funding; the distortions caused by scientists acting for litigants, political advocacy groups, or as sources for the mass media; and the persistent mishandling of fraud investigations by universities and the federal government. LaFollette says little about misconduct in book publication, which is quite a different arena than journal publishing. Still, she manages to hang most of the important issues on the journal hook, and I did not find the scope of her book too limited.

LaFollette's book is not as gripping as *Betrayers of the Truth* or *False Prophets*, either of which would serve better as a first reading for those unfamiliar with the literature of scientific misconduct. Hers is a far more scholarly and thoughtful treatment, an excellent second reading for those who wish to go below the surface. Lacking a central plot or a simplistic message, *Stealing into Print* seems to be a list of problems about misconduct faced by journal editors and others in the scientific community: classifying violations, establishing proper authorship, resolving problems with referees, handling whistleblowers, publishing retractions without fear of suit, and proper punishment for miscreants. This could have been dull reading in the hands of a less skillful writer, but LaFollette's prose is livened by anecdotes and fictional extracts.

My sole complaint is that LaFollette, an editor herself, seems to regard editors as the good guys, those respectable people who must deal with misconduct by others—such as authors and referees. A frequent author and referee myself, I missed mention of the sins of journal editors, for example, taking a year to reach a decision on a submission, appointing graduate assistants or others without relevant expertise as “peer” reviewers, and favoring submissions from their home institution.

*Spare Parts: Organ Replacement in American Society*. By Renée C. Fox and Judith P. Swazey, with Judith C. Watkins. New York: Oxford University Press, 1992. Pp. xviii + 254.

Gail Henderson

*University of North Carolina at Chapel Hill*

*Spare Parts* is a historical, sociological, and moral essay on organ replacement in American society, culminating 40 years of research into the biomedical and sociocultural significance of kidney dialysis (Renée Fox, *Experiment Perilous* [Glencoe, Ill.: Free Press, 1959]) and transplantation (Renée Fox and Judith Swazey, *The Courage to Fail: A Social View of Organ Transplants and Dialysis* [Chicago: University of Chicago Press, 1974]). Despite the passage of time, the authors demonstrate that the same themes of medical uncertainty, gift exchange, and dilemmas surrounding the allocation of scarce resources are as pronounced and complex as ever. But this is more than just an academic study. Through its

careful, grounded analysis, *Spare Parts* is a powerful indictment of recent trends in American biomedicine and American culture. At once fascinating and disturbing, the story of the rise of multiple transplantations and of the totally implantable artificial heart paints a picture of a society driven to sustain life and "rebuild people" at all costs. We learn all too clearly of the dubious quality of life experienced by patients such as Barney Clark, the first artificial heart recipient. Yet *Spare Parts* also shows us that the biological reductionism that has spawned this drive and its associated "market" for HBPs (human body parts) inevitably affects how we think of ourselves as human beings, how we are connected to other people, and how we understand a moral life.

The book is divided into two sections. The first describes the organ transplant boom in the 1980s, spurred by the discovery of the "miracle" drug cyclosporine, and the second focuses on the rise and fall of the Jarvik-7 artificial heart experiment. Organ transplantation and the artificial heart are on the cutting edge of medical innovation and thus poignantly illustrate medicine's most difficult dilemmas about how and when experiments should be conducted. The authors poignantly illustrate the tensions inherent in any clinical encounter between the pressure to act and the need to consider the evidence. Transplant surgeon Thomas Starzl mused, "No one who saw this beautiful child could resist the instinct to save her" (p. 19), while another physician, discussing patients with multiple organ failure, cautioned, "Desperate clinical situations do not in themselves constitute appropriate indications" (p. 13). Fox and Swazey quote a senior cardiac surgeon from the first artificial heart team: "As we stood on the threshold of taking the artificial heart to the clinic, everyone sensed the dilemma that [the device] was not yet ready to support real human existence . . . but I didn't want to stand in the way of progress. A whole symphony of technology gave us the feeling that maybe the [Jarvik] heart was going to work" (p. 173). As Fox and Swazey observe, this kind of "ritualized optimism blends scientific and clinical knowledge and judgment with a degree of optimism in the face of uncertainty that often seems to involve a magico-religious dimension" (p. 107).

Such powerful clinical forces explain much of the rise of organ replacement in the 1980s and early 1990s. But *Spare Parts* also clearly delineates the other forces affecting the use of new technology, including the government and other agents of social control, the media, and market influences. In the case of organ donation, market forces radically altered our understanding of "the gift," as commodification of organ parts overwhelmed sensitivity to the psychological dimensions of an inherently unreciprocal act. Perhaps most important, *Spare Parts* directs us to a consideration of the moral implications of these events for the "medical commons." Fox and Swazey see transplantation as epitomizing the health policy battle in the United States, pitting redistributive justice and rationing of medical resources against deeply ingrained American values of autonomy, free choice, and a belief in limitless medical progress in which every disease should be cured and every evidence of mortality

vigorously challenged. Furthermore, as the authors state, "One of the most urgent value questions that emerges from our long professional immersion in the world of 'spare parts' medicine is whether, as poverty, homelessness, and lack of access to health care increase in our affluent country, it is justifiable for American society to be devoting so much of its intellectual energy and human and financial resources to the replacement of human organs" (p. 208).

*Spare Parts* is based primarily on qualitative materials, gathered through extensive interviews and participant observation during the first experimental implantation of the artificial heart, as well as quantitative data on the medical aspects of transplantation and the Jarvik-7. Because of their unique access to the physicians and patients involved in these biomedical events, Fox and Swazey's study becomes a narrative—conceived as a morality play—whose interrelatedness to American culture is constantly reiterated. This style of presentation allows us to be drawn into the history, and into the stories of medical heroism and medical defeat. To the authors' great credit, they include many voices: doctors, patients, organ donors and recipients, families, and even poets. Although some of this material and its theoretical observations have been presented elsewhere, *Spare Parts* draws together a truly remarkable array of interdisciplinary information, sources, materials, and perspectives.

The final section is a personal communication by the authors regarding their decision, with this publication, to "leave the field." As they write, "By our leave-taking, we are intentionally separating ourselves from what we believe has become an overly zealous medical and societal commitment to the endless perpetuation of life and to repairing and rebuilding people through organ replacement—and from the human suffering and the social, cultural, and spiritual harm we believe such unexamined excess can, and already has, brought in its wake" (p. 210). In fact, the authors' detailed, analytical reconstruction of the recent history of organ replacement leads us inexorably to the same conclusions and concerns about how and why these events have been allowed to take place.

*Risk: A Sociological Theory.* By Niklas Luhmann. Translated by Rhodes Barrett. New York: Aldine de Gruyter, 1993. Pp. xiii + 236.

Alfonso Morales  
The University of Arizona

The theme of this book is that modern societies reorder and redescribe themselves so that risk taking is their central feature. Risk taking inheres in the contingencies produced by technological change and is produced simultaneously in many spheres of public life. For instance, producing and dumping hazardous wastes is a contingency produced by industrial society. The contingencies produced for people in different types of social organizations are risks perceived and treated according to subsystemic

logics so that approaches to risk taken by organizations, government, neighborhoods, and legal systems are not just different but are incompatible. Furthermore, the ambiguity produced by incompatible assessments of risk is, for Luhmann, irreconcilable. Implicit, then, is the notion that society is always belatedly understanding the force of technological change. Ethical or legal debates about, for instance, biotechnology, will always be a step behind technological advances and the willingness to employ them.

This book's theme could be stated in the following way: Systemic subdifferentiation permits a multiplicity of perspectives, but the logic of system reproduction prevents reconciliation of subsystemic approaches to contingency. So for contemporary societies, risk taking has become unavoidable. Thus these societies order themselves so that marking and taking risk become their central features. However, because each societal subsystem perceives risk through its own analytic lens, each subsystem produces an alternative interpretation of the risk and is prevented by its own reproductive logic from understanding and coming to some analogical appreciation for the content and form of the risk faced by different subsystems.

Rephrasing this reading as a criticism, Luhmann's is a dualistic epistemology that forgoes the possibility of analogous understandings of lived reality and forgoes conceptual schemes built on communication rather than imposed on it. The production of contingent problems in the advance of science and technology (e.g., nuclear energy, environmental degradation), government regulation (e.g., avoiding taxes associated with some income-producing activities), and play (e.g., rock climbing or bungee jumping) make the analysis of the risk-ordering capacity of people and organizations a key problem. However, the systemic perspective ignores individuals' communicative, contingent, and contextual approach to risk addressed by skill (as in a rock climber or in a business person versed in sheltering income) or in a group's assessment of the importance of group organization or ritual reciprocation (as in a gang initiation or in a religious group's denial of medical care to members). Luhmann's project erases much contextual detail in favor of conceptual closure.

Risk is everywhere, and Luhmann seems to find this encouraging. Reflexivity has encouraged both the elaboration of perspective and flexibility in perception and comprehension. That observers can observe themselves is not a novel observation. However, Luhmann connects cognition with the functional requisite of system self-maintenance, and so he presumes that all societal subsystems are simultaneously increasing options and thus increasing system indeterminacy. This idea is suggestive, but it is not elaborated, either theoretically or empirically. More important, Luhmann does not acknowledge an alternative scientific project focused on intersystemic (interpersonal) analogical understanding and the bounding of conceptual tools.

Ironically, reading this book makes one think of society in the singular

versus the plural. International or demographic differences seem to make no difference in Luhmann's analysis. But one questions how the demographics (e.g., aging) of industrialized societies will alter the make-up of social systems and systemic approaches to risk. Luhmann ignores historical experience and social struggles in his analysis of social movements. History itself, however, is key. How the book illuminates particular and potential relations is its gift. One thinks, for instance, of the interaction between the civil rights movements and environmental racism or of the growth and internationalization of green politics and indigenous environmental movements. Luhmann glosses over protests in a discussion that varies only slightly from his previous work (see pp. 125–29, 133–54; and *Ecological Communication* [Cambridge: Polity Press, 1989]). This stance eliminates truly pragmatic approaches to science by replacing question formulation with a conceptual apparatus in which all "facts" can fit and be understood (after a fashion). One might say that Luhmann's approach is overdetermined: readers cannot question the boundaries between politics and protests, because his conceptual apparatus neatly categorizes phenomena, leaving us to elaborate system connections ad infinitum.

Niklas Luhmann is an extraordinarily prolific author, and one of the reasons for this is probably also one of the faults in this book. Luhmann's systems-theoretic, or neofunctional, conceptual approach permits almost eternal elaboration of system interconnections without the need to address alternative theoretical possibilities. For those interested in Luhmann this book is probably best read in the context of his corpus. Those interested in risk may be better served by starting with one of several other books, for instance, Mary Douglas, *Risk and Blame* (New York: Routledge, 1992).

*Death and Violence on the Reservation: Homicide, Family Violence, and Suicide in American Indian Populations.* By Ronet Bachman. New York: Auburn House, 1992. Pp. ix + 167. \$39.95.

Philip A. May  
*University of New Mexico*

Examining violence among American Indians in a book-length manuscript is quite unusual in contemporary social science literature. Ronet Bachman's book is, therefore, both an opportunity gained and an example of opportunities missed.

The purpose of the book is "to provide a systematic and detailed examination of homicide, family violence, and suicide in contemporary American Indian society" (p. 1). Bachman attempts to arrive at an etiology understanding of violence among Indians and to translate this to social policy recommendations. But the mission is unfortunately not fulfilled in this short manuscript.

Bachman's major thesis is that economic deprivation and social disorder

ganization have led to high rates of family violence, homicide, and suicide among American Indians. This theme is explored through multivariate analyses on four large quantitative data sets and in interviews with Native Americans who have been convicted of murder ( $N = 30$ ), who have been victimized by family violence ( $N = 12$ ), and who have attempted suicide ( $N = 2$ ).

Both approaches are limited in several ways. The interview subjects are not specified by location and tribe, and therefore the reader has no idea whether the phenomena being described are typical of all tribes or only of a specific tribal culture that traditionally, or through change, has generated a subculture of violence. The data sets used are the Comparative Homicide File of Uniform Crime Reports, the 1985 National Family Violence Resurvey, and Vital Statistics and census data, all of which selectively represent American Indians by overrepresenting urban Indians and particular tribal cultures and socioeconomic strata. Also, aggregating Indians of all tribes as if they were similar is not desirable. While none of these problems is fatal, the reader is not made fully aware of the limitations that result. In fact, these data sources generally render the book's title inaccurate. The book concerns violence among Native Americans in the United States, not specifically *on reservations*. Further, there is tremendous variation in violence rates shown in the book from one state and county to the next; yet this variation is never explained nor cited as an important etiological link apart from the narrow range of variables that the author has operationalized (e.g., social disorganization). Unexplored are traditional tribal culture, socialization, acculturation, and other factors consistently cited in the extant literature as important.

The book has some other shortcomings as well. The footnoting and reference system is odd, for many of the references are lumped in footnotes while a limited number of others are cited using a standard social science format. This is, however, one symptom of a broader problem. For the stated goals of this work to be fulfilled, a large number of additional references could have been tapped for much more depth, meaning, and insight. For example, the chapter on suicide gives only a handful of references whereas there have been about 200 Indian-specific suicide sources generated since 1940. Many insights could have been revealed had Bachman thoroughly mined the extant literature on suicide, homicide, and behavioral health issues in this book. Finally, there are many statements in the informants' quotations that beg for fuller interpretation, but the quotations generally stand alone. The result is that the reader might perceive that he or she is getting a complete, accurate, or eclectic interpretation of the violence problem among Native Americans, when in fact the quotations present a rather simple and highly general reality as compared to the more critical understandings in the broader literature. Because the literature on American Indian violence and behavioral health problems is scattered through journals from many academic and applied disciplines, a truly successful study needs to be more eclectic. Further-

more, because of the polygenetic nature of violence, one must also embrace alternative paradigms, findings, and explanations in addition to those presented by Bachman and her informants.

This book should be approached as a monograph that is an exploration in sociological analysis. It does not arrive at a full understanding of the topic of violence among any tribe, cultural group, or American Indians as an aggregate. As a monograph, however, it demonstrates the possibility of using multiple regression techniques for further hypothesis testing about American Indian behavior. The chapter on family violence is also a real contribution, for it details a topic that is largely ignored in the quantitative American Indian literature.

Finally, Bachman's analysis provides several unique insights. First, she documents a tendency for high rates of both other-directed and self-directed violence to exist simultaneously in aggregated American Indian data. This is not only unlike most other ethnic groups in America, it would also be borne out in a number of specific tribal groups if the analysis were taken to that level. Second, Bachman's survey data analyses show very clearly that Indians who are binge drinkers are much more likely to be both under stress and involved in violent behavior. Too often the different drinking patterns among Indians have been ignored and their specific consequences unanalyzed. Bachman's linking of different patterns of drinking to domestic violence is, therefore, an addition to the Indian literature.

*Masculinities and Crime: Critique and Reconceptualization of Theory.* By James W. Messerschmidt. Lanham, Md.: Rowman & Littlefield Publishers, 1993. Pp. 236.

Kathleen Daly  
*University of Michigan*

James Messerschmidt opens *Masculinities and Crime* by observing that "when it comes to men and masculinity, the discipline of criminology is, quite simply, inept" (p. 2). That ineptness is reflected in theories of lawbreaking that center on men but without a theory of gender. Messerschmidt aims to redress this problem with a sociology of masculinity that combines feminist, social constructionist, and structured action theories.

He reviews criminological and feminist theories before laying out his theory (chaps. 1-3). He then applies his conceptualization to male youth and adult crime (chaps. 4 and 5) and concludes with a discussion of the state and gender politics. His critique of deficiencies in criminological and sex-role theories is excellent, and I commend it as an accessible introduction to the issues. His sketch of feminist theories also serves as a useful introduction, although it suffered from time to time from a caricaturing of radical feminism. For example, he implies that radical



feminists say that "*all* men behave violently [to control] women" (p. 45) and that "*all* heterosexual women are victims and *all* heterosexual men are violent" (p. 44; my emphasis). Although appreciating his interest to address variation in men's violence, I would have wanted some reflection on his role as a man, however profeminist, in using feminist theory and research.

Messerschmidt's proposed feminist theory of gendered crime draws from R. W. Connell's concepts of hegemonic and subordinated masculinities (*Gender and Power* [Stanford, Calif.: Stanford University Press, 1987]). Hegemonic masculinity is "the idealized form of masculinity in a given historical setting. . . . In contemporary Western industrialized societies, it emphasizes . . . authority, control, competitive individualism, independence, aggressiveness, and the capacity for violence (p. 82). He also draws from Giddens's work on structured action and West and Zimmerman's on "doing gender." The relationship of a sociology of masculinity to crime is theorized this way (paraphrasing and quoting from p. 84): (1) men use the resources they have to communicate gender to others, to demonstrate they are "manly," and (2) crime may serve as a suitable resource for "doing gender"—for separating them from all that is feminine—when other masculine sources are unavailable. Crime is more likely to occur in situations where "masculinity necessitates extra effort . . . and performance as a member of one's sex category is subjected to extra evaluation" (p. 85).

In reviewing research on youth crime, Messerschmidt shows that middle-class and white boys engage in conforming behavior at school—an accommodating masculinity—but outside school some engage in opposition masculinities with nonviolent forms of youth crime. White working-class boys engage in opposition masculinities both at and outside of school. More economically marginalized boys and those who are members of racial and ethnic minority groups are aware of "a hegemonic, masculine future that is . . . almost entirely unobtainable" (p. 103). Seeing no relationship between school and occupational success, they use other means of accomplishing gender. Because "doing masculinity necessitates extra effort" for these boys, "they are more likely than other boys . . . [to construct] a physically violent opposition masculinity" (p. 105).

To discuss men and crime, Messerschmidt analyzes workplace crime for those in shop-floor and managerial settings. He shows how the form and substance of men's sexual harassment varies: shop-floor men attempt to "preserve the peculiar masculinity of the shop floor" (p. 132) by demeaning women, whereas executives may expect more wifely types of personal services, including sex, from their subordinates. Property crime also varies: shop-floor men may engage in group thefts both to "beat the system" and impress other men, whereas managers may engage in corporate crime when profit making is tenuous and their "masculine identity has, or is about to be, damaged" (p. 138).

In the final chapter, the author offers two case studies (contemporary

police practices and the control of prostitution in the Progressive Era) to examine the state's role in regulating gender. I was puzzled by this chapter, because in its place, or in addition, another was required. That missing chapter needed to show how a feminist theory of gendered crime is more satisfying than previous theories. For example, how does a sociology of masculinity illuminate class and racial variation in male lawbreaking differently or better than the arguments of Merton, Miller, Cloward and Ohlin, Cohen, or more recent theorists? Further, although the author's theoretical terms help us to see *variation* in youth and adult male crime, it remains puzzling why so many boys and men apparently do *not* use crime as a resource to accomplish gender. Finally, how might a sociology of masculinity explain gender differences in lawbreaking? Although Messerschmidt takes criminological theory to task for ignoring gender differences in crime, he does not discuss how a sociology of masculinity would explain this phenomenon without being tautological. Do women not require crime as a resource as much as men to "do gender"? Why is crime "invoked as a practice" for men to separate themselves "from all that is feminine" (pp. 84–85)?

Messerschmidt's book *does* represent an advance over previous crime theories by showing how masculinity structures the variety and form of male crime and by using more sophisticated terms to theorize gendered crime. I look forward to elaborations on the theory and empirical studies using it.

*Unbearable Weight: Feminism, Western Culture, and the Body.* By Susan Bordo. Berkeley and Los Angeles: University of California Press, 1993. Pp. ix + 361. \$25.00.

Sue Fisher

*Wesleyan University*

In *Unbearable Weight* Susan Bordo has written an important book. Speaking from the philosophical base of Cartesian dualism, she argues that Western intellectual thought is characterized by a constant: "the construction of the body as something apart from the self . . . and as undermining the best efforts of that self" (p. 5). This dualism separates the active spirit/mind from the passive body. But even more importantly, in valorizing the mind/spirit and devaluing the body, it has been one of the most important influences in informing Western ideologies of gender.

As Bordo explains, the projection woman = body = negative is a deeply sedimented image and ideology. It has been deployed and embodied in medicine, law, literary and artistic representations, psychological constructions of the self, interpersonal relationships, popular culture, and advertising. From the classic images of Christian tradition to the Bowman vs. Kennedy Smith rape trial and the hearings on Anita Hill's charge of sexual harassment against Clarence Thomas, women's bodies have

been represented as "speaking a language of provocation" (p. 6). The costs of such representation are high. Women are portrayed as dangerous and depicted as reaping their just rewards whether these be rape, sexual harassment, or blocked economic opportunities.

In this volume Bordo begins with analytic insights and moves on to find their pervasiveness in a wide range of institutional and cultural expression. After identifying the recurrent theme of a gendered mind/body dualism in Western intellectual thought, she discusses how Western legal and medical practice presents husband and fetus as human subjects but pregnant women as bodies. She talks about the different ways men's and women's attitudes toward eating are represented, pointing out that the theme for women is containment and control while indulgence is encouraged for men. And she links the image of the devouring woman to the image of sexual temptress displaying the dangers of female desire.

Whether decoding the meaning of fat and thin, deconstructing the production of gendered representations, or examining the construction of self, Bordo talks about the distinctive way each is a logical manifestation of anxieties and fantasies embodied in our culture. But she doesn't stop here. She locates these tensions in a consumer culture with contradictory requirements: the preservation of a disciplined work ethic and the continuing need for mindless consumption. These contradictory tensions both set the stage for and reinscribe the dualism Bordo has been discussing.

Insights such as these have led many other intellectuals to urge that we "go beyond" dualism, that we deconstruct hierarchial oppositions. In the last two chapters, Bordo takes on these arguments, moving to the heart of current feminist thinking. She addresses postmodern culture, poststructural thought, and some aspects of contemporary feminism and concludes that while offering important insights, they also embody fantasies of transcendence. For her, the materiality and historicity of the gendered body is situated.

The way that Bordo speaks about the strength and weakness of work that seeks to deconstruct Western representations of the body while at the same time working to criticize *and* integrate other positions is one of the most significant contributions of the book. First, she reminds the reader that even though almost everyone who does the "new scholarship" on the body "claims Foucault as its founding father and guiding light . . . Foucault [did not invent] the idea" (p. 16). Marx argued that one's social class affected both the experience and the definition of the body. Foucault carried on this analysis by locating the representational body as a central site for struggles over the shape of power. And early feminists, however problematic their work has come to seem, first developed a "political" understanding of the body. For these feminists, women were oppressed, patriarchal institutions and practices were the oppressors, and the material body was the site of political struggle. While Bordo underscores the importance of this early feminist work, she is quick to point out the shortcomings of the oppressor-oppressed model of analysis. Given the differences that race, class, gender, and ethnicity

make, this model does not deal adequately with either the social and historical complexity of men and women or the multiplicity and contextuality of meaning.

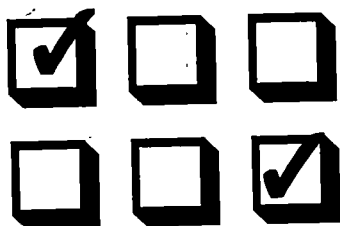
In going back to feminist roots, Bordo is able to position her work both to use the insights of poststructural thought and to integrate the critical edge of a systematic perspective. She consistently acknowledges the limits of the self and the weight of a collective history—a history at the intersection of patriarchal culture and postindustrial capitalism. *Unbearable Weight* is a wonderful read. In it Western culture, the body, and different theoretical perspectives are woven together to display how the ongoing production, reproduction, and transformation of culture shift through historical changes in relations of power, modes of subjectivity, and the organization of life.

• PRINCETON •

## DESIGNING SOCIAL INQUIRY

Scientific Inference in  
Qualitative Research

Gary King,  
Robert O. Keohane,  
and Sidney Verba



*Designing Social Inquiry* is a farsighted and timely book that promises to sharpen and strengthen a wide range of research. Three leading scholars have developed a unified approach to valid descriptive and causal inference in qualitative research, where numerical measurement is either impossible or undesirable. This work will be enormously useful to qualitative researchers of all traditions and substantive fields.

"This book has a lot to offer any and all researchers—from senior professional veterans to thesis newcomers at the undergraduate and graduate levels. . . . A must read."—Peter Gourevitch, University of California, San Diego

Paper: \$19.95 ISBN 0-691-03471-0  
Cloth: \$55.00 ISBN 0-691-03470-2

## QUIET REVOLUTION IN THE SOUTH

The Impact of the Voting  
Rights Act, 1965-1990

Edited by  
Chandler Davidson  
and Bernard Grofman

This work is the first systematic attempt to measure the impact of the Voting Rights Act of 1965. The book tells the story of the black struggle for equal political participation in eight core southern states from the end of the Civil War to the 1980s—with special emphasis on the period since 1965. *Quiet Revolution in the South* will become a standard source book on the history and effects of a vital piece of civil rights law.

"*Quiet Revolution* is the best and most important study of the effects of the Voting Rights Act in the South."  
—Bruce E. Cain, University of California, Berkeley

"*Quiet Revolution* is the most important work ever written on the impact of the Voting Rights Act."

—J. Morgan Kousser, California Institute of Technology

Paper: \$24.95 ISBN 0-691-02108-2  
Cloth: \$75.00 ISBN 0-691-03247-5

# IN AN AGE OF EXPERTS

The Transformation of Professionalism in America  
**Steven Brint**

Since the 1960s the number of highly educated professionals in America has grown dramatically. The rise of this putative "new class" has been greeted with idealistic hope or ideological suspicion on both the right and the left. *In an Age of Experts* shows that the political preferences of professionals are much more closely linked to those of business owners and executives than has been commonly assumed.

*"In an Age of Experts* is a definitive work on the politics of professionals. It should be must reading for those interested in professionals, but also for anyone concerned with what has been happening in American politics."

—Seymour Martin Lipset

Cloth: \$29.95 ISBN 0-691-03399-4 Due July 1994

---

*New in paperback*  
*With a new preface by the author*

## PRICING THE PRICELESS CHILD

The Changing Social Value of Children  
**Viviana A. Zelizer**

In this landmark book, sociologist Viviana Zelizer traces the emergence of the modern child, at once economically "useless" and emotionally "priceless," from the late 1800s to the 1930s. A vivid account of changing attitudes toward children, this book dramatically illustrates the limits of economic views of life that ignore the pervasive role of social, cultural, emotional, and moral factors in our marketplace world.

Now in paper: \$12.95 ISBN 0-691-03459-1

---

*New in paperback*

## LABOR VISIONS AND STATE POWER

The Origins of Business Unionism in the United States  
**Victoria C. Hattam**

"[An interpretation] that will significantly restructure debate about the state, political culture, and working-class formation for some time to come."

—William H. Sewell, Jr.

*Princeton Studies in American Politics:*  
*Historical, International, and Comparative Perspectives*  
Now in paper: \$14.95 ISBN 0-691-00109-X

---

# PRINCETON UNIVERSITY PRESS

AVAILABLE AT FINE BOOKSTORES OR DIRECTLY FROM THE PUBLISHER: 800-983-1759



N O W   A V A I L A B L E

## **Troubling Children**

### **Studies of Children and Social Problems**

Joel Best (*Southern Illinois University, Carbondale*), editor

1994. vi + 253 pages. References, index.

0-202-30491-4 Cloth \$43.95. 0-202-30492-2 Paper \$21.95

The papers that Best has gathered here offer original case studies concerning pre-adolescent children, and address a wide range of social problems, from broad societal crises to decision making within families.

## **Using Murder**

### **The Social Construction of Serial Homicide**

Philip Jenkins (*Pennsylvania State University*)

1994. ix + 262 pages. References, index.

0-202-30499-X Cloth \$41.95. 0-202-30525-2 Paper \$20.95

In assessing the concerns and interests aroused by the subject of serial homicide, Jenkins suggests that the topic has become a weapon in debates over issues such as gender, race, and sexual orientation, and that serial murder itself is worthy of study for what it implies about the concerns, needs, and fears of society.

## **Goodness Personified**

### **The Emergence of Gifted Children**

Leslie Margolin (*University of Iowa*)

1994. xxiii + 181 pages. References, index.

0-202-30526-0 Cloth \$37.95. 0-202-30527-9 Paper \$18.95

In challenging the most common assumptions underlying gifted education, **Goodness Personified** questions the academic rigor of such teaching. Margolin explains how the gifted child movement supports racism and classism, singling out the children of the affluent for training in dominance.

## **Gangbangs and Drive-bys**

### **Grounded Culture and Juvenile Gang Violence**

William B. Sanders (*University of Texas, El Paso*)

1994. xiii + 198 pages. References, index.

0-202-30536-8 Cloth \$35.95. 0-202-30537-6 Paper \$17.95

Employing both structural and phenomenological analysis, this volume attempts to understand the typical patterns of gang violence and its various configurations, based on data gathered by the author over a twelve year period.

*Prices subject to change.*



**Aldine de Gruyter** (*a division of Walter de Gruyter, Inc.*)

200 Saw Mill River Road · Hawthorne, NY 10532



0002-9602(199407)100:1;1-2

# AJS

American

Journal

Sociology

Volume 100 Number 2

September 1994

*The Emergence of Exchange Structures*——Kollock

*Organizational Niches and Organizational Mortality*——Baum and  
Singh

*Growth and Mortality of Credit Unions*——Barron, West, and  
Hannan

*Cultural and Economic Occupational Status*——Kalmijn

*Family Neighbors*——Logan and Spitze

*Systematic Biases in Social Perception*——Kumbasar, Romney,  
and Batchelder

*Fairness and the Division of Housework*——Lennon and Rosenfield

The University of Chicago Press



MARTA TIENDA, Editor

FRED KNISS, JEFF MORENOFF, EMILIO PARRADO, and ROBERT J. SAMPSON, Associate Editors

MARY C. BRINTON, Associate Editor, Book Review

GRACE KAO, Assistant Book Review Editor

CHAN-UNG PARK and ALFORD A. YOUNG, JR., Book Review Editorial Board

SUSAN ALLAN, Managing Editor

LAUREN FORD-TAGGART and CLAIR JAMES, Editorial Assistants

**Consulting Editors** PAUL D. ALLISON • PETER BEARMAN • ROBERT J. BURSİK, JR. • GLENN R. CARROLL • JOHN CASTERLINE • MARK CHAVES • KAREN COOK • NANCY DAVIS • NANCY DENTON • LAUREN EDELMAN • ROBERT R. FAULKNER • SCOTT FELD • CLAUDE FISCHER • ROBERTO FRANZOSI • NOAH FRIEDKIN • MARK GRANOVETTER • LARRY GRIFFIN • DOUGLAS HECKATHORN • BARBARA HEYNS • GARY LAFREE • MARGARET MOONEY MARINI • J. MILLER MCPHERSON • JAMES MONTGOMERY • DANIEL MONTI • JOEL PODOLNY • DUDLEY POSTON • CHARLES RAGIN • CECILIA RIDGEWAY • JOACHIM SINGELMANN • C. MATTHEW SNIPP • GILLIAN STEVENS

**International Consulting Editors** JEAN-FRANCOIS AMADIEU (France) • NORMAN BRAUN (Switzerland) • ANDREAS DIEKMANN (Switzerland) • ULF HANNERZ (Sweden) • PETER HEDSTROM (Sweden) • JOHANNES HUININK (Germany) • NOAH LEWIN-EPSTEIN (Israel) • TOM A. B. SNIJDERS (The Netherlands) • HAYA STIER (Israel) • THOMAS VOSS (Germany) • JEROEN WEESIE (The Netherlands)

**Editorial Board** ANDREW D. ABBOTT • GARY S. BECKER • CHARLES E. BIDWELL • DONALD J. BOGUE • TERRY N. CLARK • JAMES S. COLEMAN • JOHN L. COMAROFF • ROGER V. GOULD • WENDY GRISWOLD • PHILIP M. HAUSER • EVELYN KITAGAWA • EDWARD O. LAUMANN • DONALD N. LEVINE • DOUGLAS S. MASSEY • WILLIAM L. PARISH • MOISHE POSTONE • EDWARD SHILS • GEORGE P. STEINMETZ • RCSS M. STOLZENBERG • FRED L. STRODTBECK • GERALD D. SUTTLES • LINDA J. WAITE • WILLIAM JULIUS WILSON

THE AMERICAN JOURNAL OF SOCIOLOGY (ISSN 0002-9602) is published bimonthly in July, September, November, January, March, and May by The University of Chicago Press, Journals Division, 5720 S. Woodlawn Ave., Chicago, Illinois 60637. Subscription rates, U.S.A.: institutions, 1 year \$87.00; individuals, 1 year \$39.00. Student subscription rate, USA: 1 year \$27.00 (photocopy of valid student ID must accompany subscription). ASA and BSA members, 1 year \$34.00. All other countries add \$9.00 for each year's subscription to cover postage. Canadian subscribers add 7% GST. Subscription agent for Japan: Kinokuniya Company, Ltd. Single copy rates: institutions \$13.55, individuals \$6.25. Volumes 1-90 available from Schmidt Periodicals GmbH, Detendorf, D-8201 Bad Feilnbach 2, Germany. All volumes are available from University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106; and Kraus Reprint and Periodicals, Route 100, Millwood, New York 10546. Subscriptions are payable in advance. Subscriptions will be entered to start with the first issue to be published after receipt of order. **Postmaster:** Send address changes to *American Journal of Sociology*, The University of Chicago Press, Journals Division, P.O. Box 37005, Chicago, Illinois 60637.

ADVERTISING space in THE AMERICAN JOURNAL OF SOCIOLOGY is available; as is rental of its subscriber list. For information and rates, please contact the advertising sales staff, The University of Chicago Press, Journals Division, 5720 South Woodlawn Avenue, Chicago, Illinois 60637. Advertising and list rental is limited to material of scholarly interest to our subscribers.

*Copying beyond Fair Use.* The code on the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made beyond those permitted by Section 107 or 108 of the U.S. Copyright Law provided that copies are made only for personal or internal use or for the personal or internal use of specific clients and provided that the copier pay the stated per-copy fee through the Copyright Clearance Center, Inc. Operations Center, 27 Congress St., Salem, Massachusetts 01970. To request permission for other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale, kindly write to Permissions Department, The University of Chicago Press, 5801 S. Ellis Ave., Chicago, Illinois 60637. If no code appears on the first page of an article, permission to reprint may be obtained only from the author.

Second-class postage paid at Chicago, Illinois, and at additional mailing offices.

© 1994 by The University of Chicago. All rights reserved.

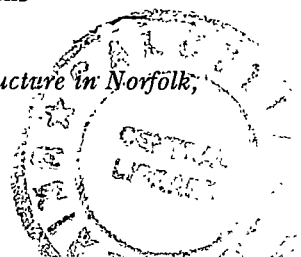
The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI Z39.48-1984. ©

**CONTENTS**

- 313 The Emergence of Exchange Structures: An Experimental Study of Uncertainty, Commitment, and Trust  
PETER KOLLOCK
- 346 Organizational Niches and the Dynamics of Organizational Mortality  
JOEL A. C. BAUM AND JITENDRA V. SINGH
- 381 A Time to Grow and a Time to Die: Growth and Mortality of Credit Unions in New York City, 1914-1990  
DAVID N. BARRON, ELIZABETH WEST, AND MICHAEL T. HAN-  
NAN
- 422 Assortative Mating by Cultural and Economic Occupational Status  
MATTHIJS KALMIJN
- 453 Family Neighbors  
JOHN R. LOGAN AND GLENNA D. SPITZE
- 477 Systematic Biases in Social Perception  
ECE KUMBASAR, A. KIMBALL ROMNEY, AND WILLIAM H. BATCHELDER
- 506 Relative Fairness and the Division of Housework: The Importance of Options  
MARY CLARE LENNON AND SARAH ROSENFELD

**Book Reviews**

- 532 *Family and Social Change: The Household as a Process in an Industrializing Community* by Angélique Janssens  
STEVEN RUGGLES
- 533 *Relations into Rhetorics: Local Elite Social Structure in Norfolk, England, 1540-1640* by Peter S. Bearman  
CHRISTOPHER K. ANSELL



- 535 *When Strikes Make Sense—and Why: Lessons from Third Republic French Coal Miners* by Samuel Cohn  
MICHAEL WALLACE
- 537 *Social Change and Labor Unrest in Brazil since 1945* by Salvador A. M. Sandoval  
GAY W. SEIDMAN
- 539 *Political Mobilization and Social Change: The Dutch Case in Comparative Perspective* by Hanspeter Kriesi  
JULIA P. ADAMS
- 541 *The Development of the Dutch Welfare State: From Workers' Insurance to Universal Entitlement* by Robert H. Cox.  
JOYA MISRA
- 543 *Old-Age Security in Comparative Perspective* by John B. Williamson and Fred C. Pampel  
TANG NAH NG AND ALEXANDER HICKS
- 545 *The Politics of Pensions: A Comparative Analysis of Britain, Canada, and the United States, 1880–1940* by Ann Shola Orloff  
JENS ALBER
- 547 *The State and the Poor: Public Policy and Political Development in India and the United States* by John Echeverri-Gent  
PATRICK HELLER
- 549 *Covering the Body: The Kennedy Assassination, the Media, and the Shaping of Collective Memory* by Barbie Zelizer  
DANIEL C. HALLIN
- 551 *Fashion, Culture, and Identity* by Fred Davis  
VALERIE STEELE
- 553 *One Nation under God: Religion in Contemporary American Society* by Barry A. Kosmin and Seymour P. Lachman  
PATRICIA M. Y. CHANG
- 554 *Continual Permutations of Action* by Anselm L. Strauss  
THOMAS SPENCE SMITH
- 556 *Gender, Culture, and Power: Toward a Feminist Postmodern Critical Theory* by Ben Agger  
CHARLES C. LEMERT
- 558 *Strong Interaction* by Thomas Spence Smith  
NORMAN K. DENZIN
- 561 *Discreet Indiscretions: The Social Organization of Gossip* by Jörg R. Bergmann  
STEPHEN ELLINGSON

- 563 *Social Contracts and Economic Markets* by Judith R. Blau  
RICHARD SWEDBERG
- 564 *Women and Credit in Pre-Industrial and Developing Societies* by William Chester Jordan  
ELAINE KEMPSON
- 566 *Above the Clouds: Status Culture of the Modern Japanese Nobility* by Takie Sugiyama Lebra  
JANE M. BACHNIK
- 568 *Blood, Sweat, and Mahjong: Family and Enterprise in an Overseas Chinese Community* by Ellen Oxfeld  
MARTIN KING WHYTE
- 570 *City on the Edge: The Transformation of Miami* by Alejandro Portes and Alex Stepick  
THOMAS J. ESPENSHADE
- 571 *The Arab Minority in Israel's Economy: Patterns of Ethnic Inequality* by Noah Lewin-Epstein and Moshe Semyonov  
CALVIN GOLDSCHIEDER
- 573 *Persistent Inequality: Changing Educational Attainment in Thirteen Countries*, edited by Yossi Shavit and Hans-Peter Blossfeld  
KATHRYN S. SCHILLER
- 576 *Diverging Pathways: Social Structure and Career Deflections* by Alan C. Kerckhoff  
AAGE B. SØRENSEN
- 578 *School to Work Transition in Japan: An Ethnographic Study* by Kaori Okano  
MAMORU TSUKADA
- 580 *Gender and Racial Inequality at Work: The Sources and Consequences of Job Segregation* by Donald Tomaskovic-Devey  
PATRICIA A. GWARTNEY-GIBBS
- 582 *No Man's Land: Men's Changing Commitments to Family and Work* by Kathleen Gerson  
BOB BLAUNER
- 583 *How Fathers Care for the Next Generation: A Four-Decade Study* by John Snarey  
DONALD J. HERNANDEZ
- 585 *Small Change: The Economics of Child Support* by Andrea H. Beller and John W. Graham  
JAY D. TEACHMAN

## IN THIS ISSUE

PETER KOLLOCK is assistant professor of sociology at the University of California, Los Angeles. His research focuses on cooperation and the role of trust and commitment in exchange. He is currently working with colleagues on a number of projects: a comparative study of trust and exchange in Japan and the United States, a project to set up and study rotating credit associations in Los Angeles, and a book-length study of interaction and order in cyberspace.

JOEL A. C. BAUM is associate professor in the Division of Management and Economics at the University of Toronto, Scarborough Campus. His work investigates the dynamics of interorganizational cooperation and competition and organizational evolution. Current research includes studies of managers' (mis)understandings of competitive processes, spatial evolution in the Manhattan hotel industry, and patterns of multimarket rivalry among regional airlines in California (with Theresa K. Lant, Heather A. Haveman, and Helaine J. Korn, respectively). With Jitendra Singh, he edited *Evolutionary Dynamics of Organizations* (Oxford University Press, 1994).

JITENDRA V. SINGH is associate professor of management and sociology and Research Director of Entrepreneurship, Sol C. Snider Entrepreneurial Center at the Wharton School, University of Pennsylvania. His current research interests include the dynamics of competition, entrepreneurship, and organizational evolution.

DAVID N. BARRON is assistant professor of sociology at McGill University. His main research interests are in ecological models of the dynamics of financial institutions, the growth of consumer credit, and cooperative forms of organization.

ELIZABETH WEST is a postdoctoral fellow at McGill University and the Centre Recherche en Droit Public at the University of Montreal. She is currently engaged in a study of ethnic and labor newspapers and is collaborating on studies of financial institutions and decision-making processes within organizations.

MICHAEL T. HANNAN is professor of sociology and of organizational behavior and human behavior in the Graduate School of Business, Stanford University. His current research considers the ecology of the world automobile manufacturing industry (with Glenn Carroll) and financial service industries in New York (with Barron and West). With James Baron, he is conducting a panel study of recently founded firms in Silicon Valley.

MATTHIJS KALMIJN is associate professor of sociology at Utrecht University in The Netherlands. His research interests are stratification and demography in general, and the intersection of these areas in particular. He recently published on black/white intermarriage in the United States (*Social Forces*) and on the role of mothers in the educational attainment process (*American Sociological Review*).

JOHN R. LOGAN is professor of sociology at the State University of New York at Albany. He is coauthor (with Harvey Molotch) of *Urban Fortunes: The Political Economy of Place*. His current projects include research on intergenerational relations, housing, and economic reform in China, growth politics in U.S. suburbs, and residential segregation in metropolitan areas.

GLENNA D. SPITZE is professor of sociology and women's studies at the State University of New York at Albany. She is involved in research on household labor and is writing a book with John Logan on intergenerational relations.

ECE KUMBASAR is a Ph.D. candidate in social sciences at the University of California, Irvine. Her research focuses on the perception and cognitive organization of social structure in small groups and uses probabilistic models as well as descriptive multidimensional scaling methods.

A. KIMBALL ROMNEY is professor of anthropology at the University of California, Irvine. His interests are interdisciplinary and include cultural consensus theory, cognitive anthropology, social networks, research design, quantitative methods, multidimensional scaling, and history of science. He is a member of the Institute for Mathematical Behavioral Sciences at Irvine.

WILLIAM H. BATCHELDER is professor of cognitive science and a member of the Institute for Mathematical Behavioral Sciences at the University of California, Irvine. His interests and publications are in the areas of measurement methods and formal models in the social and behavioral sciences. He is the former editor of *Journal of Mathematical Psychology*.

MARY CLARE LENNON is assistant professor at Columbia University's School of Public Health. Her research investigates the psychological consequences of job and family conditions for women and men. She is currently examining the structural characteristics of paid and unpaid work in relation to the psychological well-being of employed wives and full-time homemakers.

SARAH ROSENFELD is associate professor of sociology at Rutgers University and a core member of the Institute of Health, Health Care Policy, and Aging Research. Her work has concentrated on gender differences in mental health and on mental health services and policy.

## Information for Contributors

**Editorial Procedures:** All papers deemed appropriate for the *AJS* are sent out anonymously to readers. The editors rely heavily on the judgments of those readers, although they are not bound by them. To protect anonymity, only the title should appear on the manuscript. Attach a cover page with the title of the manuscript, your name, and your affiliation. All identifying references and footnotes should appear on a separate page. Manuscripts are accepted for publication subject to the understanding that the *AJS* has the right of first publication. Submission of a manuscript to the *AJS* is taken to indicate the author's commitment to publish in this *Journal*. No paper known to be under consideration by any other journal will be reviewed by the *AJS*. In addition, the *AJS* is not a suitable vehicle for materials published elsewhere, in whole or in part. Upon publication, all rights, including subsidiary rights, are owned by the University of Chicago Press. The author retains the right to use his or her article without charge in any book of which he or she is the author or editor after it has appeared in the *Journal*.

**Manuscript Acceptance Policy:** While it is our policy to require the assignment of copyright on most journal articles and review essays, we do not usually request assignment of copyright for other contributions. Although the copyright to such a contribution may remain with the author, it is understood that, in return for publication, the *Journal* has the nonexclusive right to publish the contribution and the continuing right, without limit, to include the contribution as part of any reprinting of the issue and/or volume of the *Journal* in which the contribution first appeared by any means and in any format, including computer-assisted storage and readout, in which the issue and/or volume may be reproduced by the publisher or by its licensed agencies.

## Preparation of Copy

1. Type *all* copy—including indented matter, footnotes, tables, and references—*double spaced*, allowing generous margins at the top, bottom, and sides of page. Please do not break words at ends of lines or justify right-hand margins. Do not use proportional spacing fonts. Indicate italics by underlining only. Number all footnotes, beginning with the acknowledgment note as number 1. *Provide a word count on the cover page of the manuscript.*

2. Begin each table on a separate page. Refer to each table in numerical order in the text. Tables should not contain vertical lines or more than 20 two-digit columns or the equivalent.

3. Clarify all mathematical symbols (e.g., Greek letters) with words in the margins of the manuscript.

4. Original or glossy prints of professionally drawn figures will be required if manuscript is accepted.

5. Include a brief abstract (not more than 100 words) summarizing the findings.

6. Submit *five copies* of the manuscript and abstract, on white paper. Manuscripts should be addressed to the Editor of the AMERICAN JOURNAL OF SOCIOLOGY, 5835 South Kimbark, Chicago, Illinois 60637. *Manuscripts are not returned to authors.* Enclose a self-addressed stamped postcard to obtain acknowledgment of manuscript receipt. No other acknowledgment will be sent.

7. Each article submitted to the *AJS* must be accompanied by a check or money order for \$15.00, payable to The University of Chicago Press in U.S. currency or its equivalent. Papers will not be reviewed until this fee has been paid. The submission fee will be waived for papers solely by student authors. Submissions from students must be accompanied by a faculty member's certification of their student status. Citizens of countries with restrictions on the export of U.S. dollars may request waiver of the submission fee.

**Format of References in Text:** All references to monographs, articles, and statistical sources are to be identified at the appropriate point in the text by last name of author, year of publication, and pagination where appropriate, all within parentheses. Footnotes are to be used only for substantive observations. Specify subsequent citations of the same source in the same way as the first one; do not use "ibid.," "op. cit.," or "loc. cit."

1. When author's name is in the text: Duncan (1959). When author's name is not in text: (Gouldner 1963).

2. Pagination follows year of publication: (Lipset 1964, pp. 61-65).

3. For more than three authors, use "et al." For institutional authorship, supply minimum identification from the beginning of the complete citation: (U.S. Bureau of the Census 1963, p. 117).

4. With more than one reference to an author in the same year, distinguish them by use of letters (*a*, *b*) attached to the year of publication: (1965*a*).

5. Enclose a series of references with a single pair of parentheses, separated by semicolons: (Duncan 1959; Gouldner 1963; Lipset 1964, pp. 61-65).

6. Format for references to machine-readable data files is:

Davis, James Allan. 1978. NORC ed. Chicago: NORC. Distributed by Roper Public Opinion Research Center, New Haven, Conn.

**Format of References:** List all items, including machine-readable data files (MRDF), alphabetically by author (providing the full list of multiple authors) and, within author(s), by year of publication, in an appendix titled "REFERENCES." For examples, see text of articles in this issue.

(Rev. 1/93)



# **The Emergence of Exchange Structures: An Experimental Study of Uncertainty, Commitment, and Trust<sup>1</sup>**

Peter Kollock

*University of California, Los Angeles*

An experiment is used to investigate the effects of uncertainty on patterns of exchange. The role of reputation as an important factor related to the formation of stable exchange relations is examined. In addition, some of the consequences of different patterns of exchange—in particular, how different exchange conditions lead to different levels of trust among trading partners—are investigated. The results of the experiment indicate significant differences in the level of commitment, concern for one's own and others' reputation, and the level of trust that emerge when uncertainty (in the form of information asymmetries) is varied.

## **INTRODUCTION**

The emergence of social structure has been a chronically underexamined topic across all areas in sociology (Coleman 1986). In particular, the feature of social structure that is examined here—the emergence of stable exchange relationships—has received very little empirical attention. The purpose of this study is to begin to explore this issue experimentally, examining the effects of a crucial variable—uncertainty—on the patterns of exchange that emerge. A further goal is to examine the role of reputation as an important factor related to the formation of stable exchange relations and to examine some of the consequences of different patterns

<sup>1</sup> Earlier versions of this article were presented at the annual meeting of the American Sociological Association, Pittsburgh, 1992, and at the Fourth Annual International Conference of the Society for the Advancement of Socio-Economics, Irvine, California, 1992. I wish to thank Gerrie Lemus, Elisabeth Schmutzer, and Martin Monto for their help in the design and implementation of this project. I also thank Phillip Bonacich, James Carrier, Harold Kelley, Toshio Yamagishi, Ronald Obvious, and the *AJS* reviewers for comments on earlier drafts. Correspondence may be directed to Peter Kollock, Department of Sociology, University of California, Los Angeles, California 90024-1551. E-mail: kollock@soc.sscnet.ucla.edu.

of exchange—in particular, how different exchange conditions lead to different levels of trust among trading partners.

This project brings together elements from two research traditions: social exchange theory and work on social dilemmas.<sup>2</sup> While the majority of research to date in these traditions has examined the effects of preexisting social structures on exchange and cooperation, this experiment is directed toward studying the *emergence* of different kinds of exchange structures. In addition, this project examines exchange situations in which deceit and opportunism are possible (in contrast to most work in social exchange theory) and where actors can move into and out of different exchange relations (in contrast to most work on social dilemmas).

A particularly evocative example of the kind of situation I wish to investigate is given in the work of Siamwalla (1978) and Popkin (1981) on the structure of commodity exchange in Thailand. Two contrasting cases are highlighted. The first is the market for rubber. Rubber is an interesting commodity in that at the time of sale it is impossible to determine its quality. It is not until months later, after extensive processing, that the buyer can determine whether the grower took the extra time and expense to insure a high-quality crop. Within this situation the buyers are not motivated to pay a high price for goods of unknown quality and the growers are not motivated to produce high quality goods as there is no simple, objective way of displaying the care they took. The participants are faced with a type of Prisoner's Dilemma that is the result of asymmetric information. Further, there are no regulatory agencies to monitor and sanction the actions of each exchange partner.

It is a difficult situation and one possible conclusion is that the buyers and sellers could not escape their fate, that is, cooperation would not emerge and the market would "fail" in that only low-quality goods would be bought and sold despite the fact that everyone could earn more buying and selling high-quality goods. And yet the growers and buyers of rubber have escaped this fate. Not because they decided to trust each other blindly or because they managed to create an institution to monitor and sanction themselves, but because they abandoned the anonymous exchange of the market for personal, long-term exchange relationships between particular buyers and sellers. Within this framework it is possible for the growers to establish reputations for fairness and trustworthiness.

<sup>2</sup> I use the term *social dilemmas* to refer to the broad range of work that has been done in a number of disciplines on situations in which individually rational behavior leads to collectively irrational outcomes. This includes work on the Prisoner's Dilemma, the problem of collective action, public goods and the free-rider problem, etc. For reviews see Messick and Brewer (1983), Orbell and Dawes (1981).

In contrast, if the uncertainty regarding the good is low, the need for commitment and the concern over reputation will be lower. An example is the market for rice (Siamwalla 1978; Popkin 1981). Unlike rubber, the quality of rice can be ascertained directly and at essentially no cost by rubbing a few grains together between blocks of wood. In this situation, exchange more closely resembles the neoclassical model of the market: "Since quality is easy to assess instantaneously, rice markets are generally auction markets: immediate, relatively impersonal transactions. Or what Adam Smith thought all capitalism was like—information easily and readily ascertainable, easy switching of buyers, little reason for loyalty to any marketer or to any buyer. The grower's reputation matters relatively little since direct quality assessments are so easy to perform" (Popkin 1981, pp. 72–73).

This pair of examples captures the key points of this article. In essence, the goal was to create experimental analogs of the rubber and rice markets in order to examine the effects of uncertainty on the emergence of commitment and trust, as well as the importance of reputation in these settings.<sup>3</sup>

### Commitment in Exchange Relations

Social exchange theory has a long and fruitful history of examining the *effects* of different exchange structures (networks of various shapes) on patterns of interaction, but very little research has investigated the emergence of these networks. Within a given network structure, researchers have sometimes had something to say about which pairs of actors are likely to trade (e.g., Bienenstock and Bonacich 1993; Cook, Emerson, Gillmore, and Yamagishi 1983; Markovsky, Willer, and Patton 1988). Of particular importance is an early experiment by Cook and Emerson (1978), who developed a measure of commitment as part of a study on power use in two four-person networks. I use the term *commitment* in the same sense they do to refer to *behavioral* patterns of exchange—that is, who trades with whom and to what extent. Because their focus was on power, they did not study patterns of commitment per se but rather the mediating effects of commitment on power use. One of the very few studies that has experimentally examined commitment is Lawler and Yoon (1993). This research focused on dyads, with each member of the dyad having a single, less attractive (i.e., less profitable) alternative. Their results indicated that the distribution of power, and whether a

<sup>3</sup> Note that the rubber and rice markets are used here simply as examples. The point of the present study is to experimentally examine the emergence of commitment, not to create a detailed simulation of commodity markets in Thailand.

bargaining situation is zero sum or is not zero sum, can indirectly affect the frequency of trading between two exchange partners.<sup>4</sup>

However, in each of these studies the researchers created particular network structures within which subjects interacted. The question addressed here—What pattern of committed exchange relations emerges in a situation where anyone might interact with anyone else?—has received almost no empirical attention.<sup>5</sup>

A second limitation in current work within social exchange theory is the neglect of deceit and opportunism in exchange relations. That is, in the typical exchange experiment actors bargain over the price of their goods or how to divide a set number of points, but there is never the possibility of lying about the value of what one has, receiving a good without paying the agreed price, or backing out of a contract after it has been agreed upon. In other words, the typical social exchange experiment guarantees the terms of the exchange. In one sense this is an understandable feature of an experimental paradigm if one wishes to study, for example, the dynamics of power in a controlled way, but in another sense it sidesteps much that is crucial in actual interaction (concerns of uncertainty, risk, and being taken advantage of) and thus much that may be central in explaining why social structure in the form of networks of commitment exists.

If actors are not required to trade "in good faith," the interaction can have the structure of a social dilemma in that (like the rubber market) individuals gain by being deceitful, but all are hurt if all choose this course of action. Work on social dilemmas thus treats as its central concern the kind of deceit and uncertainty (caused by the tension between individual and collective rationality) that is usually ignored in exchange theory. The emergence of social structure, however, has also been taken for granted in much of the literature on social dilemmas.

In some of the best known work on the emergence of cooperation in

<sup>4</sup> While Lawler and Yoon (1993) studied frequency of exchange, as I do, they use the term *commitment* to refer to an *affective* bond. Again, I am using the term here to refer to *behavioral* patterns of exchange. *Commitment* has also been used to refer to phenomena such as moral obligations or feelings of attachment. For further discussions of these other forms of commitment, see Becker (1960), Johnson (1991), Kanter (1972), Kelley (1983), Leik and Leik (1977), Levinger (1979), Rosenblatt (1977), Rubin and Brown (1973), and Rusbult and Buunk (1993).

<sup>5</sup> One study that does address these issues is Podolny (1990). Unfortunately, the experiment in this study is seriously limited, as the author himself acknowledges. Experimental economists (e.g., Fehr, Kirchsteiger, and Riedl 1993; Lynch et al. 1984; Plott 1986) do often examine situations where there are no restrictions on who might exchange with whom, but they are interested in very different issues and so have focused on questions of efficiency, price estimation, etc., rather than studying the emergence of stable exchange relations.

the face of social dilemmas (e.g., Axelrod 1984; Hardin 1982; Taylor 1987), the structural property that is doing most of the work in these analyses—the fact that transactions occur repeatedly with the same actors—is fixed by assumption. Said another way, these scholars provide no mechanism to explain commitment to an exchange partner or group: commitment is fixed and unvarying across actors and time. Each actor is forced to interact with every other actor and is unable to choose partners or to leave unsatisfactory exchange relations. This is troubling because according to these theorists conditional cooperation occurs only because of iterated transactions with identifiable others; yet there is no explanation of how a longitudinal exchange relation is established or maintained or what pattern those networks of relations might take.

Recent work has begun to relax some of these stringent assumptions. Studying the emergence of committed exchange requires that actors be able to move into and out of relationships, and Schuessler (1989) as well as Orbell and Dawes (1991) have conducted computer simulations of groups of actors playing an iterated Prisoner's Dilemma game. In this work, actors had the option of exiting, that is, leaving their current partner for a new one, after each round. Because these researchers wished to study whether cooperation could emerge under very harsh conditions, in both cases the models assumed that actors could not recognize each other. Thus, issues such as commitment and reputation were irrelevant.

Research on social dilemmas in which actors can recognize each other as well as exit from the relationship includes computer simulations by Vanberg and Congleton (1992) and Yamagishi, Hayashi, and Jin (1992), and experimental work by Marwell and Schmitt (1975), Orbell, Schwartz-Shea, and Simmons (1984), and Yamagishi (1992). In each case, however, the focus was on the level of cooperation; the emergence of committed exchange relationships was not studied.

### Uncertainty and Trust

As I discussed above, an important limitation in current work in social exchange theory is the absence of deceit or opportunism in experimental designs. Yet situations in which we can be taken advantage of are pervasive in every realm of our lives. The motivations of those we interact with can be inferred but never known directly and the quality of goods and services we are offered is often unknown or known only approximately. In the language of game theory, we are often faced with *information asymmetries*: you and I have different bundles of information. This lack of information about the motivations of others and the quality of

what is exchanged can open one up to serious risks and lead to unfortunate outcomes.<sup>6</sup>

A classic example of this sort of situation is the market for "lemons" (i.e., used cars of poor quality) analyzed by Akerlof (1970). The problem faced by the buyer of a used car is that he or she often cannot know the true quality of a car until after the car has been purchased and driven for a time. The car seller often does have a good idea of the car's quality, but there is no simple means of conveying this information in a believable way. The buyer realizes that the seller is motivated to describe the car as reliable regardless of the true nature of the car and that the seller stands to make an especially large profit if a "lemon" can be sold as a reliable car. According to Akerlof's analysis, because of this risk a buyer will be unwilling to purchase a used car at a high price. If the seller cannot get a high price the seller will be motivated to sell only lemons. The pessimistic conclusion is that in the absence of other factors only low-quality cars will be bought and sold at a low price. Both buyers and sellers are hurt by this outcome, and so the situation has the structure of a social dilemma in that individually rational behavior leads to a collectively irrational outcome.<sup>7</sup>

Faced with a situation in which one can be taken advantage of, a natural response is to restrict one's transactions to those who have shown themselves to be trustworthy (i.e., becoming committed to particular exchange partners). This is not a possibility in Akerlof's original analysis because he assumes the purchase of a used car between a particular buyer and seller is a one-time transaction. In contrast, the market for rubber involves the same problem of information asymmetries but in a situation in which buyers and sellers might encounter each other from one season

<sup>6</sup> There are other sources of uncertainty, but in this article I restrict my attention to uncertainty that is the result of information asymmetries. To define the term more precisely, "In a game of asymmetric information, the information sets of players differ in ways relevant to their behavior. . . . The essence of asymmetric information is that some player has useful *private information*" (Rasmusen 1989, p. 53; emphasis in original). This same situation is sometimes referred to as a game of *incomplete* information (Dasgupta 1988; Kreps 1990). Because this latter term is used inconsistently in the literature I will not use it here. For a detailed analysis that distinguishes perfect, certain, symmetric, and complete information from each other, see Rasmusen (1989, pp. 51–54). Note that he uses these terms in a particular, restricted sense—his usage does not always coincide with common usage, and while I borrow his definition of asymmetries, I do not use such terms as "uncertainty" in the same restricted sense he does. For a discussion of the sources of information asymmetries, see Kollock and O'Brien (1992).

<sup>7</sup> There are a variety of institutional arrangements that can help alleviate this kind of risk. Examples include enforceable warranties and contracts (e.g., Heimer 1985) or regulatory agencies (e.g., Zucker 1986). These solutions have their own set of limitations and risks (cf. Coleman 1990; Shapiro 1987).

to the next. The possibility of repeated exchanges means commitment can be used as a response to the risks that derive from information asymmetries.

As sellers and buyers repeatedly trade with each other it will be possible for trust to develop. As I use the term here, an action demonstrates *trust* if it "increase[s] one's vulnerability . . . to another whose behavior is not under one's control. [It refers to] the conscious regulation of one's dependence on another" (Zand 1972, p. 230; cf. Deutsch 1962).<sup>8</sup> Thus, the development of high levels of trust requires more than just ongoing interaction. Some level of risk must also be present so that there is a *test* of trust (Dasgupta 1988). As Kelley and Thibaut (1978, p. 237) observe in a discussion of the development of exchange relations: "If the [situation] is extremely correspondent [i.e., what is good for one actor is good for the other], there is . . . no basis for the development of trust, for there is nothing to risk, hence no test of willingness to take risks: cooperative overtures will be attributed to the structure of the situation rather than to dispositional . . . properties of the participants. Therefore it is in the middle regions of the continuum of outcome correspondence, in which elements of both conflict and cooperation are present as temptations, that attributions of trust have their origins." The implication is that trust is likely to be higher among actors who manage to establish successful exchange relations in situations such as the rubber market (where information asymmetries introduce significant risks), as opposed to actors in situations similar to the rice market (where more information is available and the risks are significantly lower). Of course, risk creates a breeding ground not only for trust but for exploitation as well. It may be then that in looking at the trust actors have for each other in a risky exchange situation one will find extremes of both trust and distrust. This will be one of the issues explored in the experiment.

Granovetter (1985) has also argued that ongoing experience within a network of exchange relationships is likely to be a key source of trust. Indeed, his claim is that this may be the most important source: "The widespread preference for transacting with individuals of known reputation implies that few are actually content to rely on either generalized morality *or* institutional arrangements to guard against trouble. . . . [Instead] social relations, rather than institutionalized arrangements or generalized morality, are mainly responsible for the production of trust in economic life" (pp. 490–91; emphasis in original).

His comment also raises the issue of reputation. A *reputation*, as defined by Robert Wilson (1985, pp. 27–28), is a "characteristic or attribute

<sup>8</sup> For further elaboration on the concept of trust, see Coleman (1990), Dasgupta (1988), Gambetta (1988), and Yamagishi and Yamagishi (1993).

ascribed to one person . . . by another (e.g., 'A has a reputation for courtesy'). Operationally, this is usually represented as a prediction about likely future behavior (e.g., 'A is likely to be courteous'). It is, however, primarily an empirical statement (e.g., 'A has been observed in the past to be courteous'). Its predictive power depends on the supposition that past behavior is indicative of future behavior." If actors encounter each other repeatedly in a risky situation, reputation is likely to be an important concern, both in terms of establishing a particular reputation for oneself as well as making some judgment about the reputation of one's potential exchange partners.

In recent years there has been a great deal of theoretical work in game theory and microeconomics on the important effects of reputations in situations with information asymmetries (Kreps and Wilson 1982; Kreps et al. 1982; Milgrom and Roberts 1982; Shapiro 1982; Wilson 1985).<sup>9</sup> This research has argued that "differences in the information available to participants make their strategies acutely sensitive to their beliefs and expectations" (Wilson 1985, p. 59), and hence actors will be concerned about both their own and their partners' reputation. A further conclusion is that this concern will vary depending upon the amount of risk in the exchange, with situations characterized by a high degree of uncertainty (such as the rubber market) leading to a greater concern for reputation.

There have also been theoretical discussions of the importance of reputation in the literature on social dilemmas (e.g., Axelrod 1984) as well as in the rational choice tradition within sociology (e.g., Coleman 1990; Raub and Weesie 1990). Curiously, the concept of reputation has been all but absent in social exchange theory.<sup>10</sup> Exchange theory has focused on the flow of tangible resources through an exchange network, but the work that has been done on reputation suggests that the flow and management of information will likely be as important a determinant of exchange processes and structures.<sup>11</sup>

In sum, this discussion suggests that variations in the initial structural constraints that affect the availability of information should have predictable effects on the strategies of exchange that actors adopt in their trans-

<sup>9</sup> For general overviews of the topic, see Kreps (1990) and Rasmusen (1989).

<sup>10</sup> An important exception is the work by Bacharach and Lawler (1981) on bargaining.

<sup>11</sup> From a sociological point of view, considering reputation and its effects also brings a dramaturgical element into the study of exchange. To date the possible relevance of research on dramaturgy to work on social exchange has hardly been explored. A more complete analysis of exchange should bring in *both* the structural conditions of exchange and dramaturgical activity to examine the conditions under which such factors as reputation become important. For an extended discussion of the issues of commitment, reputation, and the relevance of dramaturgy to social exchange theory, see Kollock and O'Brien (1992).



actions and therefore on the structure of the exchange networks that emerge. Specifically, if the uncertainty regarding a good that is exchanged is high, actors will enter into committed exchange relations with those partners who have shown themselves to be trustworthy. In this setting commitment will be high, actors will be very concerned about reputations, and trust is likely to be high (at least among committed exchange partners). It will be a system of exchange marked by a network of personalized, long-term exchange relations. In contrast, the example of the market for rice implies that when uncertainty is low, commitment will be low, actors will not be as concerned about reputations, and the level of trust between exchange partners will be lower. These are the hypotheses that will be explored in the experiment. Thus, at least in a limited way both sides of the micro-macro relationship are brought in: I investigate how the initial structural conditions of exchange affect interaction which in turn reproduces or reforms the exchange structure.

## METHOD

### Design

I created two experimental conditions. The single factor varied (between subjects) was the information subjects had about the quality of goods they were trading. In the first condition the quality of the goods being sold was public knowledge. In the second condition buyers discovered the quality of the goods they had purchased only after the sale was made. It is important to note that the unit of analysis is the group as a whole. This is necessary both because the key dependent variable of interest (the degree of commitment in the exchange system) is a property of the group as a whole and because actors within a given group are of course interdependent, making statistical tests at the individual level inappropriate.

### Subjects

The experiment was run during the spring of 1991. Subjects were recruited from undergraduate social science courses at the University of California, Los Angeles, during the winter of 1990–91 and at the beginning of spring. Recruitment was based solely on the opportunity to earn money, and prospective subjects were told they could earn from \$10 to \$30 (depending on their performance in the experiment) for two hours of their time. A total of 80 subjects participated in groups of eight.<sup>12</sup> The

<sup>12</sup> Because the group is the unit of analysis, although 80 subjects participated in the experiment, for the purpose of tests of statistical significance,  $N = 10$ .

subjects ranged from 18 to 33 years of age, with a mean age of 21.5 years.

### Procedure

Subjects were scheduled in groups of eight. Four subjects were randomly assigned the role of seller and four were assigned the role of buyer. The experiment took place in a room with a divider so that sellers could not see buyers and vice versa. At the front of the room, in view of all of the subjects, was a large erasable board on which were recorded the subjects' offers to buy and sell. Subjects made offers and accepted them by writing messages on small individual boards; talking was prohibited. Thus buyers and sellers could neither see nor hear each other and were identified only on the basis of a letter each had been assigned. They were also explicitly told that they would not see each other after the experiment was over.

Subjects read a set of instructions and went through a training period before the experiment began. In both experimental conditions, buyers and sellers traded goods of different qualities in order to earn points (which were converted to money at the end of the experiment). In the uncertain-quality condition (as in the rubber market) buyers did not discover the quality of what they had purchased until after the sale, and the quality was disclosed only to that particular buyer, not to the group as a whole. In the certain-quality condition (as in the rice market) the quality of the goods being sold was public knowledge.

In the uncertain-quality condition, the instructions read by the subjects were as follows:

*For sellers.*—During each trading period you will have an opportunity to sell *one* shipment of "goods" to one of the buyers. The shipment you sell can vary in terms of its quality. There are three levels of quality (low, regular, super) and the higher the quality the more it will cost you to produce a shipment (a low costs 20 points, a regular costs 60 points, and a super costs 100 points). You will be asked at the beginning of each trading period what quality of goods you wish to produce. The higher the quality, the more the shipment is worth to a buyer. However, *at the time you sell the shipment the buyer will not know the quality*. After the purchase the buyer will be told the quality of the shipment he or she just bought from you.

*For buyers.*—During each trading period you will have an opportunity to buy *one* shipment of "goods" from one of the sellers. The value of a shipment to you depends on its quality. There are three levels of quality (low, regular, super) and the higher the quality, the higher its value to you (this value is known as the "redemption value"). A low is worth 40 points, a regular is worth 120 points, and a super is worth 200 points. *At the time*

*you buy the shipment you will not know the quality* but after the purchase you will be told the quality of the shipment you bought.

In the certain-quality condition, the instructions informed the subjects that the quality of goods being sold would be public knowledge. The value of the goods for buyers and sellers was designed to create a situation that had two key characteristics. First, the higher the quality, the greater the cost to produce, but the higher the value to buyers; second, the higher the quality, the more profit there was to split up. Subjects were aware of these two features, which were emphasized during the training period. Subjects did not know, however, the exact value of the goods for the people with whom they were trading. That is, buyers did not know exactly how much it cost sellers to produce a good and sellers did not know the exact redemption value of a given quality of goods for buyers.

While actual quality was unknown in the uncertain-quality condition, sellers were allowed to advertise if they wished; that is, they could claim the shipment they were trying to sell was of a particular grade. It was emphasized (and buyers quickly discovered this) that sellers were under no obligation to advertise truthfully.

Each trading period lasted a maximum of five minutes, during which buyers and sellers could make as many offers and counteroffers as they wished (though they could complete only one trade during a given period). These offers and counteroffers were listed on the large board at the front of the room and so could be seen by all subjects.<sup>13</sup> There were two types of offers that could be made: *public* offers, which could be accepted by anyone, or *private* offers, which were directed toward a particular person and could be accepted only by that person. This feature allowed subjects to enter into restricted trading relations if they so desired.

Buyers and sellers were free to accept or not to accept an offer at any time. Once an offer was accepted it became binding. In the uncertain-quality condition the buyer was then privately informed of the quality of the good he or she had just purchased (of course, this information was already known to the buyer in the certain-quality condition). Once the sale was made, the relevant information was recorded on a data sheet, and the subjects calculated their profits for the round. In order to eliminate endgame effects, the number of trading periods was varied and subjects did not know which period would be their last. All groups traded for at least 20 rounds.

<sup>13</sup> Buyers and sellers could make any offer they desired, subject only to the constraint that they needed to make a profit in order to earn money. Subjects were restricted to making one trade per round in order to be consistent with the important body of work on negatively connected exchange networks (Cook and Emerson 1978; Cook et al. 1983; Markovsky et al. 1988), which imposes the same restriction.

After the experiment, subjects were given a questionnaire that contained (1) items designed to serve as manipulation tests, (2) questions regarding demographic characteristics, (3) items designed to measure how concerned they were about their own and their partners' reputation and how likely they were to switch partners, and (4) ratings of others in the group on a variety of dimensions.

### The Measurement of Commitment

The key dependent variable of interest is commitment. The variable will be defined and measured at the behavioral level; that is, the question will be, Who traded with whom and to what extent? Even when the variable is defined strictly in behavioral terms, there are a number of complexities that emerge in designing a measure of commitment.

One possibility for assessing commitment would be to compare the number of trades two actors engaged in to the total number of trades. That is, if A and B trade seven times out of 15 possible trades, one could compute a commitment measure that is simply the ratio of trades completed to total trades possible (a score of .467 in this case). Such "pair-based" measures, however, are local measures that examine only one relationship at a time. This can lead to counterintuitive results in which actors might be given the same commitment score despite very different patterns of exchange.<sup>14</sup>

The alternative would be a measure that took into account the entire set of possible exchange relationships each actor faced. Such a measure (which can be termed "network-based" rather than "pair-based") was developed by Cook and Emerson (1978). For each actor, this measure compares the number of trades made with different partners. That is, it contrasts each possible exchange relationship with every other possible exchange relationship in which an actor might take part.

A revised version of their measure will be used here. Specifically, for an exchange system in which each actor has four potential trading part-

<sup>14</sup> For example, in a situation in which an actor has three possible exchange partners and completed 15 trades, consider two possible distribution of trades:

Case 1 Actor A completes seven trades with B, seven trades with C, and one trade with D;

Case 2 Actor A completes seven trades with B, four trades with C, and four trades with D.

Using a pair-based measure, the commitment score for the exchange relation between A and B would be identical in both case 1 and case 2, as will the average level of commitment across partners. Yet A's overall pattern of trade in case 1 (where A is equally committed to both B and C) is very different than case 2 (where B is clearly the partner A is most committed to).

ners, the level of commitment for actor I with potential partners J, K, L, and M, after  $t$  trading periods will be defined as

$$(C_i)_t = [(T_{ij} - T_{ik})^2 + (T_{ij} - T_{il})^2 + (T_{ij} - T_{im})^2 + (T_{ik} - T_{il})^2 + (T_{ik} - T_{im})^2 + (T_{il} - T_{im})^2] / [3(t^2)], \quad (1)$$

where  $T_{ij}$  signifies the number of trades I completed with J. The commitment measure has a maximum value of 1.0 when an actor has completed a trade every round and always with the same partner, and a minimum value of 0.0 when trades are evenly distributed among all possible trading partners. As Cook and Emerson (1978, p. 735) point out, while each person in the group "can have a different commitment score, the [eight] scores are obviously interdependent. To the extent that any person becomes committed, others, losing 'choice' in partner selection, become structurally committed of necessity."

As the term is used here, commitment also implies that an actor will resist at least some levels of temptation (e.g., a better price from another potential partner). The implication is that once a committed exchange relationship forms, actors will not abandon the relationship the moment a slightly better alternative presents itself. To tap into this possibility, on the postexperimental questionnaire subjects were asked to report how often they kept trading with a buyer/seller even when they could get a better price from someone else.<sup>15</sup>

### Other Measures

On the postexperiment questionnaire, subjects were also asked a variety of questions designed to serve as manipulation tests, including how realistic they felt the study was, how clear the instructions were, how strongly motivated they were to earn as much as possible, and how much they enjoyed the experiment.

In addition to the question concerning commitment, subjects were asked how concerned they were about both their own and their partners' reputation for being fair in their trades.<sup>16</sup>

<sup>15</sup> Subjects responded on a seven-point scale, ranging from *never* (1) to *always* (7). A direct behavioral measure of such actions would be preferable. However, recording the kind of fine moment-to-moment detail necessary to make such calculations (every offer and counteroffer and the sequence in which they were made) was simply not possible given that data was being recorded with paper and pencil. A future set of studies currently being planned will be run through a computer network, which will allow the recording of every offer and counteroffer throughout the length of the experiment.

<sup>16</sup> The questions read, "How strongly were you concerned about your reputation for being a fair seller [buyer]?" and "How strongly were you concerned about the buyers' [sellers'] reputations for being fair in their trades?" As with all questionnaire items, subjects responded on a seven-point scale.

Finally, the postexperiment questionnaire allowed subjects to evaluate each person the subject might have traded with (i.e., the four buyers if a seller was answering the questionnaire, and the four sellers if the subject had been a buyer) on 12 bipolar scales. Of particular importance is the scale which asked subjects to rate how untrustworthy/trustworthy each of their potential trading partners was.<sup>17</sup>

### Hypotheses

Note that the sellers and buyers in the uncertain-quality condition are not exposed to the same level of risk. The seller does face some risk (producing a costly, high-quality good and then not being able to get a high price for it), but the risks for the buyer are much greater. The seller makes a trade with full information about the quality of the good and the price being paid. In contrast, the buyer must trade blindly, knowing the price but learning the quality only after the exchange is consummated. The experiment was designed with this structure for two reasons: first, this structure models a great many empirical situations; and second, for some variables this allows one to make hypotheses not simply about differences between the two conditions (certain vs. uncertain quality), but also about differences between the role subjects played in the experiment (seller vs. buyer).

Seven hypotheses will be investigated. Based on the discussion above, the key prediction is the effect of uncertainty on commitment:

**HYPOTHESIS 1.**—*Commitment will be greater in the uncertain-quality condition.*

Related to this prediction is the hypothesis concerning subjects' response to tempting offers by other exchange partners:

**HYPOTHESIS 2.**—*Subjects will be more likely to report staying with an exchange partner even when they could get a better price from someone else in the uncertain-quality condition.*

The second variable of interest is trust. As discussed above, developing high levels of trust requires that there be some test of trust, that is, risk. Assuming buyers and sellers establish successful exchange relations in both conditions, the prediction is

**HYPOTHESIS 3.**—*Subjects will rate their partners as significantly more trustworthy in the uncertain-quality condition.*

<sup>17</sup> Subjects were asked to indicate their overall impression of each potential trading partner on the following scales: intelligent/unintelligent, honest/dishonest, reliable/unreliable, likable/unlikable, irrational/rational, untrustworthy/trustworthy, kind/unkind, incompetent/competent, fair/unfair, unfriendly/friendly, rigid/flexible, and aggressive/unaggressive.

The uncertain-quality condition could produce extremes of both trust (for one's favored trading partner) and distrust (for other partners, who perhaps tried to take advantage of the subject). This possibility will be investigated by examining not just the overall level of trust within the group, but the average trustworthiness rating for one's most trusted and least trusted trading partner as well. Because of the asymmetric risk in the uncertain-quality condition, I also expect that the trustworthiness ratings made by buyers will be more "extreme" than those made by sellers. Specifically

*HYPOTHESIS 4.—Within the uncertain-quality condition, the trustworthiness rating of one's most trusted partner will be higher for buyers than sellers, and the trustworthiness rating for one's least trusted partner will be lower for buyers than sellers.*

The reason for this prediction is that, since buyers face much greater risk in their trading, they will have particularly strong evidence about the trustworthiness or untrustworthiness of their partners. One should also expect to find a relationship between commitment and trust in that there should be higher trust among partners who frequently trade with each other. Hence

*HYPOTHESIS 5.—The trustworthiness rating for one's most frequent exchange partner will be greater than the rating for one's least frequent exchange partner.*<sup>18</sup>

A positive relationship between commitment and trust should definitely be found in the uncertain-quality condition. I also expect to find this relationship in the certain-quality condition despite the absence of significant risk. Previous research (Homans 1961; Lawler and Yoon 1993; Molm 1991) has suggested that frequent exchange is sufficient in itself to produce positive evaluations of one's partner. However, while commitment and trust are likely to be related in both conditions, the average level of trust should be higher in the uncertain-quality condition.<sup>19</sup>

The final variable of interest is concern for reputation, and it is expected that greater risk leads to greater concern for reputation. Hence

*HYPOTHESIS 6.—Subjects will be significantly more concerned about*

<sup>18</sup> Note that in order to test this prediction it is necessary to examine the exchange patterns of particular dyads rather than the group as a whole. Thus for this hypothesis, and only for this hypothesis, a pair-based measure of commitment was used. This measure consists of the ratio of trades completed with a particular partner to total trades possible.

<sup>19</sup> I do not make an assumption about the direction of causality between commitment and trust, simply that the two will be positively related. Trust and commitment are likely to mutually reinforce each other over time. Tracking the fine details of how the two develop (which would require an experimental design that measured trust repeatedly over time) would be an interesting possibility for a future study.

*both their own and their partners' reputation in the uncertain-quality condition.*

Here, as with trust, I expect a difference between buyers and sellers in the uncertain-quality situation, and for a similar reason. Because buyers face a much greater risk—being exploited by a seller—the prediction is that buyers will be particularly concerned about the reputation of sellers and sellers will be especially concerned about their own reputation. Hence

*HYPOTHESIS 7.—Within the uncertain-quality condition, the concern for one's partners' reputation will be higher for buyers than sellers, and the concern for one's own reputation will be higher for sellers than buyers.*

## RESULTS

Analysis of the postexperimental questionnaire provides evidence that the subjects were highly motivated to earn as much as possible (mean = 6.01, SD = 0.38; seven-point scale), rated the instructions they received as very clear (mean = 6.28, SD = 0.38), found the study realistic (mean = 4.89, SD = 0.30), and greatly enjoyed participating in the experiment (mean = 6.16, SD = 0.41). Only one of these scores differed significantly between the two experimental conditions (the question concerning the motivation to earn as much as possible; this result is discussed below).

The results will be grouped according to the dependent variables, beginning with the measures of commitment, then reporting on the level of trust in the groups, variables relevant to concerns about reputation, and finally a section on other findings that were not explicitly predicted. Because the group is the unit of analysis, all variables consist of group averages.

### Commitment

Figure 1 displays the average level of commitment across time for both experimental conditions. The trading rounds were grouped into five blocks of four rounds each. The effect of uncertainty on commitment was significant and in the direction hypothesized: commitment was significantly greater in the uncertain-quality condition ( $F_{1,8} = 5.46$ ;  $P < .05$ ), supporting hypothesis 1.

There were no significant differences across blocks of trading rounds ( $F_{4,32} = 0.72$ ;  $P = .581$ ), nor was the interaction of uncertainty  $\times$  blocks significant ( $F_{4,32} = 0.73$ ;  $P = .577$ ).<sup>20</sup>

<sup>20</sup> Because the commitment measure takes into account the entire group, it is impossible to test for differences between sellers and buyers (the mean score for one subgroup will always equal the mean of the other subgroup). Despite the limitations of a pair-based measure of commitment (i.e., a simple ratio of completed trades to possible trades), statistical tests were run using this measure because it allows comparisons



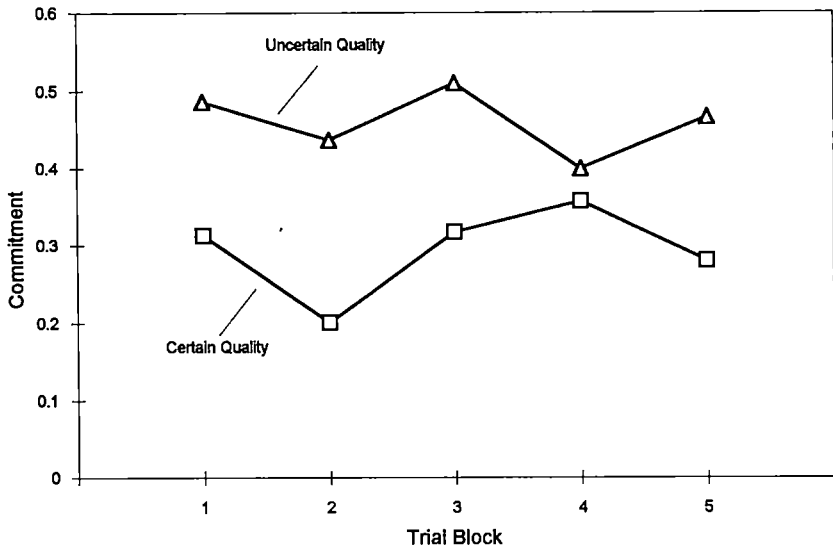


FIG. 1.—Average level of commitment

Consistent with the hypothesis 2, subjects in the uncertain-quality condition were significantly more likely to report that they sometimes kept trading with a particular partner even when they could get a better price from someone else. (Mean = 2.68, 3.98 for the certain- and uncertain-quality conditions, respectively;  $P < .05$ . Means are based on a seven-point scale with a higher score indicating a greater tendency to remain with one's partner.)

### Trust

The average trust rating for all potential partners was significantly higher in the uncertain-quality condition, supporting hypothesis 3. (Mean = 4.08, 4.62 for the certain- and uncertain-quality conditions, respectively;  $P < .01$ .)

Because this overall average could be masking extremes of both trust and distrust, the average trustworthiness ratings of subjects' most and least trusted partner were examined separately. Figure 2 displays the trustworthiness rating of subjects' *most* trusted partner for sellers and buyers in both experimental conditions.

There is a very strong main effect for the influence of uncertainty,

---

between sellers and buyers. There were no significant or near-significant differences in commitment between sellers and buyers in either experimental condition.

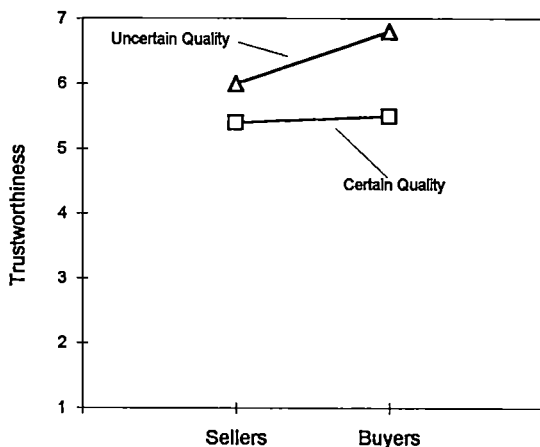


FIG. 2.—Trustworthiness rating for *most* trusted partner

indicating that the level of trustworthiness for one's most trusted partner is significantly higher in the uncertain-quality condition ( $F_{1,8} = 41.26$ ;  $P < .001$ ). There was also a significant effect for the role subjects occupied (seller vs. buyer), with buyers on average rating their most trusted partner higher than sellers ( $F_{1,8} = 9.26$ ;  $P < .05$ ; role is treated as a repeated measure). However, this effect is largely the result of the difference between sellers and buyers in the uncertain-quality condition; sellers and buyers do not differ significantly in the certain-quality condition. This results in a significant interaction effect between uncertainty (certain vs. uncertain quality) and role (seller vs. buyer;  $F_{1,8} = 5.60$ ;  $P < .05$ ). Note that subjects in the uncertain condition rated their most trusted partner higher than did subjects in the certain-quality condition and that the buyers in the uncertain condition rated their most trusted partner exceptionally high (mean = 6.80 on a seven-point scale).

Figure 3 displays the trustworthiness rating of subjects' *least* trusted partner. The main effect for uncertainty was not significant ( $P = .918$ ), but the effect for role was significant ( $F_{1,8} = 13.68$ ;  $P < .01$ ). Once again, this effect is due to the difference between sellers and buyers in the uncertain-quality conditions, a difference that results in a significant interaction effect ( $F_{1,8} = 11.36$ ;  $P < .01$ ). In this case sellers in the uncertain-quality condition rated their least trustworthy partner higher than other experimental subjects, whereas buyers in the uncertain-quality condition rated their least trusted partner lower than other subjects.

Looking at both figures 2 and 3, one can see that buyers in the uncertain condition rated their most trusted partner higher than sellers in the uncertain condition and they rated their least trusted partner lower than

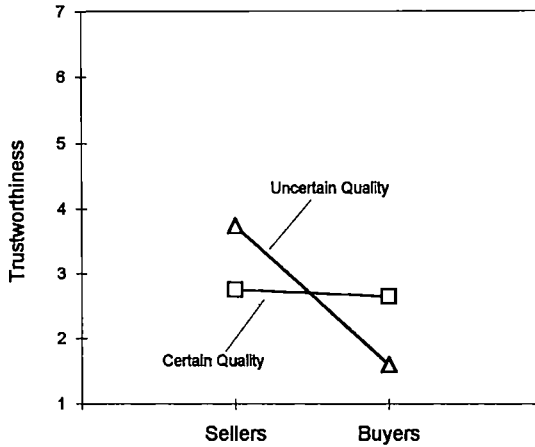


FIG. 3.—Trustworthiness rating for *least* trusted partner

sellers, all of which supports hypothesis 4. Note also that in the certain-quality condition there is essentially no difference between buyers and sellers in their ratings of their partners' trustworthiness.

One should also expect to find a relationship between trust and commitment. Figure 4 displays the trustworthiness rating of subjects' most and least frequent trading partner for the two experimental conditions.

As predicted by hypothesis 5, the difference between the trustworthiness rating of subjects' least and most frequent exchange partner is sig-

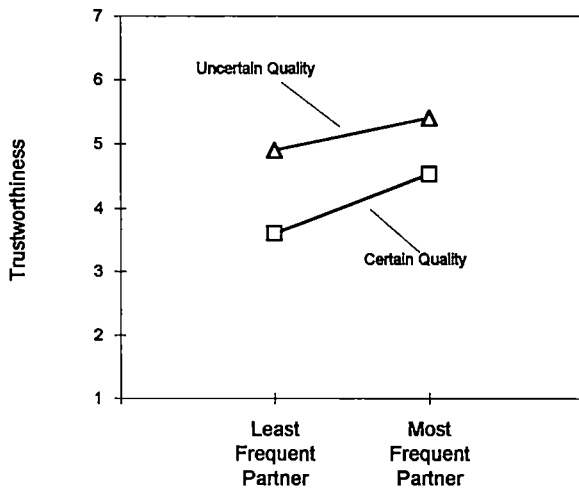


FIG. 4.—Trustworthiness rating of most and least frequent exchange partner

nificant in both conditions, with subjects rating their most frequent partner as more trustworthy ( $F_{1,8} = 10.35$ ;  $P < .05$ ). The effect for uncertainty is also significant, indicating that subjects in the uncertain-quality condition on average rated their trading partners as more trustworthy ( $F_{1,8} = 20.24$ ;  $P < .01$ ). The interaction effect was not significant ( $P = .365$ ).

### Concern for Reputation

The remaining hypotheses deal with subjects' concern for their own and their partners' reputation. Figure 5 displays subjects' concern for their *own* reputation for being fair in their trades. There is a significant effect for uncertainty, with subjects in the uncertain-quality condition being more concerned on average about their own reputation ( $F_{1,8} = 20.17$ ;  $P < .01$ ). The effect for role was not significant ( $P = .693$ ), but the interaction effect between uncertainty and role was nearly significant ( $F_{1,8} = 4.76$ ;  $P = .061$ ).

Figure 6 displays how concerned subjects were about their potential *partners'* reputation. Again, there is a significant uncertainty effect ( $F_{1,8} = 6.07$ ;  $P < .05$ ). Subjects in the uncertain-quality condition on average were more concerned about their partners' reputation. There is a nearly significant role effect ( $F_{1,8} = 3.68$ ;  $P = .091$ ). As was true with the trust variables, this effect is the result of the difference between sellers and buyers in the uncertain-quality condition, which results in a significant interaction effect ( $F_{1,8} = 6.66$ ;  $P < .05$ ).

In each case subjects in the uncertain-quality condition were on aver-

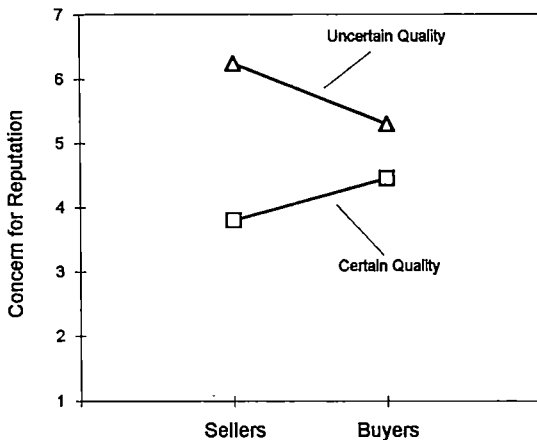


FIG. 5.—Concern for *own* reputation for being fair

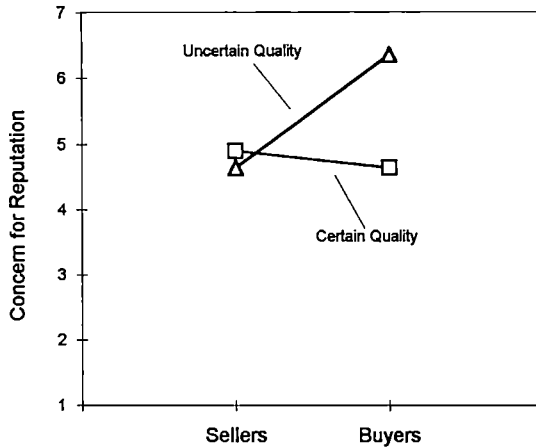


FIG. 6.—Concern for *partners'* reputation for being fair

age significantly more concerned about both their own and their potential partners' reputation, confirming hypothesis 6. In addition, within the uncertain-quality condition, sellers were more concerned about their own reputation and buyers were more concerned about their partners' reputation. In other words, subjects in the uncertain condition were especially concerned about sellers' reputation. This finding confirms hypothesis 7.

### Other Findings

The average quality of goods exchanged in each experimental condition is shown in figure 7. Again, the trading periods are aggregated into five blocks of four trading periods each.

There is a significant rise in the average quality of goods traded for both experimental conditions ( $F_{4,32} = 5.33$ ;  $P < .01$ ). Although the overall quality of goods traded in the certain-quality condition is a little higher than in the uncertain-quality condition, the difference was not significant ( $F_{1,8} = 2.14$ ;  $P = .182$ ). The interaction between uncertainty and trial blocks was also not significant ( $F_{4,32} = 0.80$ ;  $P = .533$ ). Note that the average level of quality is quite high in both conditions.

Four other findings were significant or nearly significant. First, in a question that asked how motivated subjects were to be fair when they made trades, the average level of motivation for being fair was significantly higher in the uncertain-quality condition (mean = 4.18, 5.58 on a seven-point scale for the certain- and uncertain-quality conditions, respectively;  $P < .01$ ). Second, although subjects in both conditions reported they were highly motivated to earn as much as possible, subjects

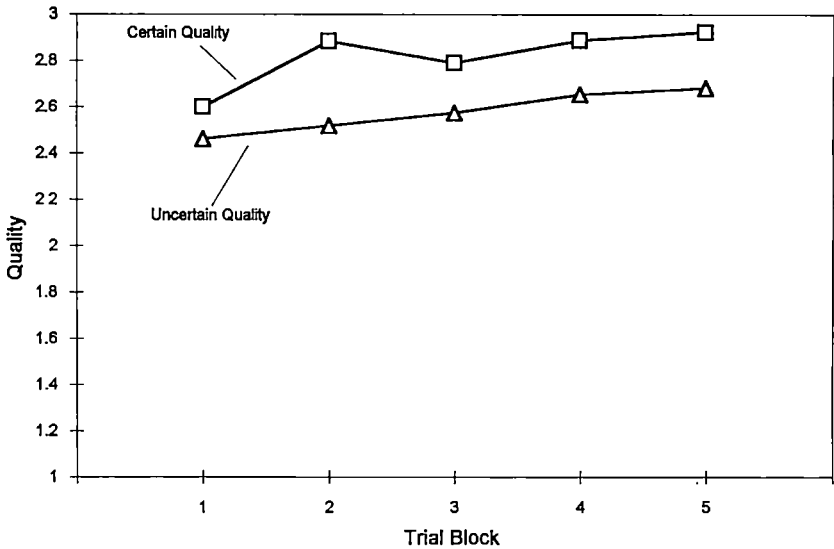


FIG. 7.—Average level of quality (3 = super, 2 = regular, 1 = low)

in the *certain* quality condition had significantly higher scores on this measure—that is, they were more motivated to earn as much as possible (mean = 6.28, 5.75 for the certain- and uncertain-quality conditions, respectively;  $P < .05$ ). Third, an unanticipated finding was that when subjects were asked their impression of how rational their potential trading partners were, the overall rationality rating was significantly higher in the uncertain-quality condition (mean = 4.29, 4.81 for the certain- and uncertain-quality conditions, respectively;  $P < .01$ ). Finally, it seems that subjects in the uncertain-quality condition attributed more “extreme” personality characteristics (whether in the positive or negative direction) to their trading partners than did subjects in the certain-quality condition. By “extreme” I mean the extent to which ratings on the bipolar personality scales departed from the midpoint. A measure was constructed that summed the absolute value of each rating minus four points (the midpoint). The average departure from the midpoint was greater for the uncertain-quality condition (mean = 1.103, 1.455 for the certain- and uncertain-quality conditions, respectively;  $P = .056$ ).

## DISCUSSION

All the hypotheses were supported by the results. Commitment, the reported tendency to remain with a partner despite a better offer, the average level of trust, and concern for one’s own and others’ reputation were all significantly higher in the uncertain-quality condition.

Although commitment, as operationalized by the Cook and Emerson measure, was significantly higher in the uncertain-quality condition, observations of subjects' trading behavior suggest a more complex definition of commitment may be needed. In some cases, sellers were observed advertising truthfully when trading with some buyers and trying to exploit others. For example, in one case a seller established a trading relationship with one favored buyer within which the seller always advertised truthfully and sold the goods at a reasonable price. When interacting with other buyers however, the seller tried to pass on low-quality goods as high-quality goods. When trying to sell a "lemon," the seller was very careful to shut out the favored buyer by making only private offers and only to the other three buyers. In that way the favored buyer could not inadvertently buy the shipment thinking it was a high-quality good (which would damage the relationship the seller had carefully nurtured).<sup>21</sup>

This example demonstrates the kind of sophisticated strategic behavior that some subjects engaged in. It also illustrates a different way of thinking about commitment. Intuitively, it seems reasonable to say that this seller was committed to the favored buyer. Yet simply looking at the number of trades the seller made and with whom would not uncover the kind of commitment expressed here. While the Cook and Emerson measure clearly taps into an important behavioral pattern, future work would likely benefit from using a more complex operational definition of commitment.

It is also important to note that the difference in commitment between the two experimental conditions was relative rather than absolute—commitment was definitely present in the certain quality condition. This suggests that commitment will be present to some degree in any exchange system. Indeed, Baker (1984) has shown that even in exchange situations that have been designed to eliminate quality uncertainty and transaction costs as much as possible, such as the Chicago Options Exchange, commitment between particular buyers and sellers emerges.

Trust was significantly higher on average in the uncertain-quality condition, though this general result ignores interesting interaction effects. As I discussed above, sellers and buyers both face risks in the uncertain condition, but buyers face much greater risks—they are always in danger of being exploited by sellers because of their lack of knowledge about the quality of the good being sold. This means that sellers face a particularly severe test of their trustworthiness, and so it is not surprising to see that, in the uncertain-quality condition, buyers' most trusted partners were

<sup>21</sup> These observations were confirmed in a discussion this seller had with the experimenter after the experiment had been completed.

ranked exceptionally high in trustworthiness and their least trusted partners were ranked exceptionally low (figs. 2 and 3). Buyers' ratings of their least trusted partner was the one case in which the level of trust was lower in the uncertain condition. It is noteworthy that there were no differences between sellers and buyers in the certain-quality condition. This is understandable given that sellers and buyers are in equivalent situations in that each has full information about quality and price.

The other finding regarding trust was the relationship between commitment and trust (fig. 4), and as expected the results demonstrate that subjects rank their most frequent exchange partner as more trustworthy than their least frequent partner. This relationship held in both conditions, although the level of trustworthiness was once again significantly higher in the uncertain-quality condition. The fact that the relationship between trading frequency and trust also existed in the certain-quality case is interesting. It seems that ongoing interaction, even in the absence of significant uncertainty, can lead to an increase in trust. Note however that the level of trust for subjects' *most* frequent partner in the certain-quality condition was still lower than the trust rating for subjects' *least* frequent partner in the uncertain condition.

Concern about reputation was also significantly higher in the uncertain-quality condition. Once again, this general finding ignores a variety of interesting interaction effects that can be seen once sellers and buyers are examined individually. In the uncertain-quality condition sellers had the opportunity to exploit buyers, and so it is understandable that buyers in this condition were especially concerned about sellers' reputation for being fair and sellers were especially concerned about their own reputation for being fair (figs. 5, 6). This concern about fairness in the uncertain-quality condition is also reflected in the finding that subjects in this condition were more likely to report that they were motivated to be fair in their trades with others.

The finding that subjects' impressions of each other's rationality was higher in the uncertain-quality condition was unexpected, and I am not certain how to interpret the result. One tentatively offered possibility is that the greater challenge of completing successful trades under conditions of uncertainty required sophisticated strategies and decision making, and so when subjects looked back on the actions of their trading partners they were inclined to rate them as quite rational. As for the finding that subjects in the uncertain-quality condition attributed more "extreme" personality characteristics to their trading partners, a possible interpretation is that trading under conditions of risk leads to subjectively more secure assessments of others' characteristics. Whatever the case, it is interesting that different structural conditions of exchange can lead to



significantly different attributional patterns about individuals' underlying dispositions and capacities.

Observations of subjects' trading behavior in the uncertain-quality condition also revealed interesting details about their approach and reactions to risky exchange. Subjects seemed to follow a number of different strategies in trying to make successful trades. In the uncertain-quality condition there were some buyers who started off selling high-quality goods from the beginning and never tried to take advantage of buyers. Although no communication was permitted between subjects and the quality of the good was disclosed only to the buyer, because subjects had an opportunity to trade with each other over a number of rounds, those sellers who were reliable sources of high-quality goods were quickly discovered, and buyers often bid each other up in price for the opportunity of trading with the trusted seller. Indeed, the prices buyers were willing to pay for goods from a particular seller and the rush by some buyers to complete a trade with particular sellers seemed to be sources of information for other buyers—if other buyers were eager to trade with seller X, then perhaps they should be too. In this way sellers who established a reputation for selling high-quality goods could demand a premium for their goods because of the identity they had established for themselves.

Other sellers in the uncertain-quality condition tried to get away with all they could, sometimes stringing a buyer along with a few good trades and then exploiting them by passing on a low-quality good that they advertised as a high-quality good. Still other sellers, as was illustrated in the commitment example above, were always fair with some buyers (to the extent that they advertised truthfully) while not hesitating to exploit other buyers.

Also noteworthy was the exceptional involvement of subjects in the experiment and a moral element that seemed to color the experience. Those buyers in the uncertain-quality condition who were betrayed by a seller (having been sold low-quality goods that were advertised as high-quality goods) appeared very disturbed and often wrote notes in the margins of their data sheets such as "Never trade with C again!" Conversely, when successful exchange relations were established under conditions of risk, subjects reacted very positively. In two groups in the uncertain-quality condition, a pair of subjects formed exclusive trading relations (all trades were completed with only one partner) that were also highly successful (only high-quality goods were traded). The outcome was very interesting: although subjects were told they would not meet each other afterward and would not be able to identify each other, in these two cases the trading partners sought each other out, asking subjects as they left the experiment what position they held. When they

found each other they greeted one another as old friends even though they had not known each other prior to the experiment (and of course knew each other during the experiment simply by an identifying letter, their only source of information about the other being their trading behavior). They congratulated each other, praised each other, exchanged "high-fives," and in one case even made plans to meet for lunch the next day. It is also noteworthy that exclusive exchange relations never developed in the certain-quality condition.

### Risk, Regulation, and Trust

It is possible to think about the *certain*-quality condition as an exchange system in which a third party (the experimenter) served as a regulatory agency to insure the terms of the transaction. Indeed, it was an ideal regulatory system in that it operated perfectly (no seller could misrepresent the quality of his or her goods, and no one could back out of a contract once it had been made) and at no cost to the participants.

The quality of goods traded in the certain condition was a little higher than the goods traded in the uncertain condition, which suggests the advantage of a formal regulatory system. Yet this difference was not significant and, given that there was a significant increase in quality over time in both conditions, it may be that even this small difference would disappear. Further, the results indicated that there may be some drawbacks to a system that relies on an outside party to provide guarantees even when the monitoring system works perfectly. The average level of interpersonal trust was significantly lower in the certain-quality condition compared to the uncertain-quality condition. To the extent this finding is robust, one implication is that in some situations an external, formal regulatory system might work against the emergence of trust within a group or result in the atrophy of already existing trust. This possibility has been discussed by a number of theorists. At the most general level, Taylor (1987, p. 168) has argued that "the more the state intervenes . . . the more 'necessary' (on this view) it becomes, because positive altruism and voluntary cooperative behavior *atrophy* in the presence of the state and *grow* in its absence. Thus, again, the state exacerbates the conditions which are supposed to make it necessary. We might say that the state is like an addictive drug: the more of it we have, the more we 'need' it and the more we come to 'depend' on it" (emphasis in original).

Hirschman (1984, p. 93) makes a similar point, stating that trust and other "moral resources" are "resources whose supply may well increase rather than decrease through use; these resources do not remain intact if

they stay unused; like the ability to speak a foreign language or to play the piano, these moral resources are likely to become depleted and to atrophy if *not* used" (emphasis in original).

An interesting empirical example that is consistent with these views comes from research by Light, Kwuon, and Zhong (1990). Their research contrasts the effects of rotating credit associations with bureaucratized financial institutions as a source of capital in a Korean-American community. Rotating credit associations are informal lending circles that often involve a significant risk (the possibility that one of the participants will default). They argue that these informal exchange systems can actually encourage trust and solidarity within the community: "Like ethnic business generally, [Korean rotating credit associations] encourage the ethnic solidarity they require. In short, social trust reciprocally shapes credit institutions and is shaped by them, being helped to persist where credit institutions require a high level of social solidarity in the user population, and damaged where general social (not economic) life undermines the requisite solidarity. This result supports the claim that bureaucratized financial institutions accelerated the atomization of the population rather than having, as previously thought, served the otherwise intractable needs of already atomized people" (Light et al. 1990, p. 48).<sup>22</sup>

While the links between these larger issues of social order and the experiment are speculative, the results do indicate that the presence of uncertainty in the form of information asymmetries can promote high levels of interpersonal trust.<sup>23</sup> It is conceivable that the higher levels of trust that emerged in this condition could serve as a form of "social capital" (Coleman 1988), making possible various actions that might otherwise not be successful (e.g., contributing toward the provision of some public good or managing a commons). Messick et al. (1983), for example, have demonstrated empirically that individuals who rated their exchange partners as trustworthy were more likely to cooperate in an *N*-person social dilemma (by reducing their own "harvest" in a commons type of collective dilemma).

This would be a very interesting route to solving group-level dilemmas because it would not require a formal control system. Undoubtedly, for-

<sup>22</sup> And as Taylor (1987, p. 177) notes, "It has often been argued that the choice of the scope and form of social institutions (such as the state) must be based on 'pessimistic' assumptions, so that they will be 'robust' against the worst possible conditions . . . in which they might be required to operate. . . . But if the institutions themselves affect preferences . . . then this approach is inappropriate and may be dangerously misleading."

<sup>23</sup> This is not to say that uncertainty *guarantees* high levels of trust. I discuss this issue below.

mal controls will often be needed, but there is an argument to be made against the inevitable *necessity* of formal controls as a solution to *N*-person social dilemmas. It is possible that endogenous solutions to *dyadic* dilemmas based on such features as commitment and reputation (as demonstrated in this experiment) could create the trust and solidarity necessary to solve *collective* dilemmas. An empirical test of these ideas is currently being designed.

### Stable versus Optimal Outcomes

While the emergence of commitment, trust, and successful trading relations are possible results of an exchange system resembling the uncertain-quality condition, in no way are they inevitable results. I do not assume that the effects of commitment and reputation will always solve such problems as trading under conditions of uncertainty. That is, I wish to avoid a functionalist or "adaptionist" (Gould and Lewontin 1984) argument that would assume exchange systems inevitably converge on one optimal outcome.

That more than one stable outcome is possible is suggested by the pretrials that were run for this experiment. In the first pretrials, sellers in the uncertain-quality condition were not allowed to advertise. Under this condition two different groups reached different stable outcomes: for one group the transactions resembled the ones reported here (high-quality goods being exchanged), while in the other group the market "failed" in that after a short length of time only low-quality goods were being sold at low prices (and so resulting in low profits for everyone). It seemed that the first few trades subjects made had a great effect on subsequent transactions. In the group where the first few moves were trusting (producing high-quality goods, and offering a high price in buying goods), these actions seemed to encourage a trend toward high prices and high quality, but in the group where the first few moves were exploitative (trying to get a high price for low-quality goods), low-quality goods were soon the only ones available in the group.<sup>24</sup>

One possible interpretation is that although sellers were not required to be truthful in their advertising, it still served to communicate information that had a beneficial impact on trading. To put it differently, restricting the flow of information seemed to increase the sensitivity to initial conditions (i.e., the first few trades subjects made). Again, these are not established results, merely impressions from the pretrials, but the implications are certainly important enough to warrant future research,

<sup>24</sup> Compare Gamson, Fireman, and Rytina (1982) on the effects of early disagreement in a group on the group's subsequent capacity for collective action.

and they do make the point that an outcome of high quality and high profits is not inevitable.<sup>25</sup>

Thus, the kind of model of exchange and the emergence of social structure I have in mind is a contingent, "multiple equilibrium" one. In contrast, "in less contingent arguments—including most neoclassical economic work, many versions of Marxism or population ecology, and functionalism of all varieties—outcomes are predicted without the necessity of looking closely at the historical background of particular settings, the preexisting economic institutions, or the social structure and collective action of individuals" (Granovetter 1990, p. 106). While unique predictions might not be possible, "such multiple equilibrium models, even if underdetermined, are far from the historicist argument that every case is unique and anything is possible" (Granovetter 1990, p. 107). The challenge then is to specify the crucial parameters and the outcomes that will follow.

If uncertainty is too high, the risks too large, or perhaps the temptations of exploitation too great, high trust and successful exchange relations may not emerge. On the other hand, the quote from Kelley and Thibaut (1978, p. 237) in the introduction makes the point that if there is no risk in an exchange situation, exploitation will not occur, but neither will high levels of trust develop. Thus, one way of thinking about this experiment is as an investigation into the *structural* origins of trust in a system of exchange, rather than treating trust as an individual personality variable (e.g., Messick et al. 1983; Yamagishi 1986). It seems that it is in the broad middle range of risk and uncertainty that both the emergence of trust and the possibility of endogenous solutions to the problem of risky trade emerge. Here we see such possibilities as commitment and reputation as social solutions to uncertainty in exchange relations.

## CONCLUSIONS

The results clearly indicate that it is possible to study experimentally the emergence of different exchange structures as well as the consequences

<sup>25</sup> Looking at another possible factor, it is interesting to note that reputations did not seem to provide a solution to a lemons market in a study conducted by Lynch et al. (1984). They believe it is likely that because only two extreme grades of quality were possible (lows and supers), the decision to offer high-quality goods was a very risky one—there was no way to temper one's risk by, for example, offering goods of intermediate quality until trust was established. In addition to the above discussion on advertising and the flow of information, this suggests another situation in which reputation and commitment might not solve the problem of information asymmetries: an exchange system in which the risks to cooperating initially (by offering to buy at a high price or produce a high-quality good) are extreme.

of different patterns of exchange. While this study obviously does not capture all the important processes involved in the emergence of structure and commitment (which might require following groups for weeks or months), it is equally important to note that for at least some important features, this experiment produced stable results and significant differences after 20 periods of exchange.

There are a number of important directions for future research. Using a behavioral measure of trust, perhaps in connection with the provision of a public good, would allow one to test some of the ideas discussed above in the section on risk and regulation. Another variation would be to allow the buyers and sellers to talk among themselves (i.e., buyers with buyers, and sellers with sellers). Presumably this would accelerate the development of reputation and might also lead to organized sanctioning of untrustworthy actors. Increasing the flow of information further by allowing face-to-face interaction of all the subjects would be another interesting variation. Research on social dilemmas (e.g., Messick and Brewer 1983; Orbell and Dawes 1981) and in experimental economics (e.g., Radner and Schotter 1989) has demonstrated that face-to-face communication can promote cooperation and increase bargaining efficiency. The general theme would be to study the effects of variations in the communication network *and* the exchange network (which can vary independently of each other) on the processes and emergent structures of exchange. Other possible modifications to this design include allowing more than one exchange per round or varying the number of buyers and sellers so that the two groups would not be evenly matched. Finally, commitment and trust are not the only important variables in exchange relations, and my future work will examine the effects of sociological variables on price and profit dynamics in risky trading situations.

In sum, this research demonstrates that uncertainty can have significant effects on the emergence of exchange structures, the level of interpersonal trust in a group, and the concern actors have for their own and their partners' reputation. The lessons for social exchange theory include recognizing the important effects of deceit and opportunism on exchange, the need to investigate the emergence of social structure as well as its effects, and the relevance of reputation (and other factors related to the signaling and collection of information) to exchange processes.

## REFERENCES

- Akerlof, George A. 1970. "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism." *Quarterly Journal of Economics* 84:488-500.
- Axelrod, Robert. 1984. *The Evolution of Cooperation*. New York: Basic.

- Bacharach, Samuel B., and Edward J. Lawler. 1981. *Bargaining: Power, Tactics, and Outcomes*. San Francisco: Jossey-Bass.
- Baker, Wayne. 1984. "Floor Trading and Crowd Dynamics." Pp. 107–28 in *Social Dynamics of Financial Markets*, edited by Patricia Adler and Peter Adler. Greenwich, Conn.: JAI Press.
- Becker, H. S. 1960. "Notes on the Concept of Commitment." *American Journal of Sociology* 66:32–40.
- Bienenstock, Elisa, and Phillip Bonacich. 1993. "Game Theory Models for Exchange Networks: Experimental Results." *Sociological Perspectives* 36 (2): 117–35.
- Coleman, James S. 1986. "Social Theory, Social Research, and a Theory of Action." *American Journal of Sociology* 91:1309–35.
- . 1988. "Social Capital in the Creation of Human Capital." *American Journal of Sociology* 94 (suppl.): S95–S120.
- . 1990. *Foundations of Social Theory*. Cambridge, Mass.: Harvard University Press.
- Cook, Karen S., and Richard M. Emerson. 1978. "Power, Equity and Commitment in Exchange Networks." *American Sociological Review* 43:721–39.
- Cook, Karen S., Richard M. Emerson, Mary R. Gillmore, and Toshio Yamagishi. 1983. "The Distribution of Power in Exchange Networks: Theory and Experimental Results." *American Journal of Sociology* 89:275–305.
- Dasgupta, Partha. 1988. "Trust as a Commodity." Pp. 49–72 in *Trust: Making and Breaking Cooperative Relations*, edited by Diego Gambetta. New York: Basil Blackwell.
- Deutsch, Morton. 1962. "Cooperation and Trust: Some Theoretical Notes." Pp. 275–319 in *Nebraska Symposium on Motivation*, edited by M. Jones. Lincoln: University of Nebraska Press.
- Fehr, Ernst, Georg Kirchsteiger, and Arno Riedl. 1993. "Does Fairness Prevent Market Clearing? An Experimental Investigation." *Quarterly Journal of Economics* 108 (2): 437–59.
- Gambetta, Diego. 1988. "Can We Trust Trust?" Pp. 213–37 in *Trust: Making and Breaking Cooperative Relations*, edited by Diego Gambetta. New York: Basil Blackwell.
- Gamson, William A., Bruce Fireman, and Steven Rytina. 1982. *Encounters with Unjust Authority*. Chicago: Dorsey Press.
- Gould, Stephen Jay, and Richard C. Lewontin. 1984. "The Spandrels of San Marco and the Panglossian Paradigm: A Critique of the Adaptionist Programme." Pp. 252–70 in *Conceptual Issues in Evolutionary Biology*, edited by Elliot Sober. Cambridge, Mass.: MIT Press.
- Granovetter, Mark. 1985. "Economic Action and Social Structure: The Problem of Embeddedness." *American Journal of Sociology* 91:481–510.
- . 1990. "The Old and the New Economic Sociology: A History and an Agenda." Pp. 89–112 in *Beyond the Marketplace: Rethinking Economy and Society*, edited by Roger Friedland and A. F. Robertson. New York: Aldine de Gruyter.
- Hardin, Russel. 1982. *Collective Action*. Baltimore: Johns Hopkins University Press.
- Heimer, Carol A. 1985. *Reactive Risk and Rational Action: Managing Moral Hazard in Insurance Contracts*. Berkeley and Los Angeles: University of California Press.
- Hirschman, Albert O. 1984. "Against Parsimony: Three Easy Ways of Complicating Some Categories of Economic Discourse." *American Economic Review* 74 (2): 89–96.
- Homans, George C. 1961. *Social Behavior: Its Elementary Forms*. New York: Harcourt Brace & World.
- Johnson, Michael. 1991. "Commitment to Personal Relationships." Pp. 117–43 in *Advances in Personal Relationships*, vol. 3. Edited by W. Jones and D. Perlman. London: Jessica Kingsley.

- Kanter, R. M. 1972. *Commitment and Community: Communes and Utopias in Sociological Perspective*. Cambridge, Mass.: Harvard University Press.
- Kelley, Harold H. 1983. "Love and Commitment." Pp. 265-314 in *Close Relationships*, by H. H. Kelley, E. S. Berscheid, A. Christensen, J. Harvey, T. L. Huston, G. Levinger, E. McClintock, L. A. Peplau, and D. R. Peterson. New York: Freeman.
- Kelley, Harold H., and John W. Thibaut. 1978. *Interpersonal Relations: A Theory of Interdependence*. New York: Wiley.
- Kollock, Peter, and Jodi O'Brien. 1992. "The Social Construction of Exchange." Pp. 89-112 in *Advances in Group Processes*, vol. 9. Edited by E. J. Lawler, B. Markovsky, C. Ridgeway, and H. A. Walker. Greenwich, Conn.: JAI Press.
- Kreps, David M. 1990. *A Course in Microeconomic Theory*. Princeton, N.J.: Princeton University Press.
- Kreps, David M., Paul Milgrom, John Roberts, and Robert Wilson. 1982. "Rational Cooperation in the Finitely Repeated Prisoners' Dilemma." *Journal of Economic Theory* 27:245-52.
- Kreps, David M., and Robert Wilson. 1982. "Reputation and Imperfect Information." *Journal of Economic Theory* 27:253-79.
- Lawler, Edward, and Jeongkoo Yoon. 1993. "Power and the Emergence of Commitment Behavior in Negotiated Exchange." *American Journal of Sociology* 98 (4): 465-81.
- Leik, R. K., and S. A. Leik. 1977. "Transition to Interpersonal Commitment." Pp. 123-45 in *Behavioral Therapy in Sociology*, edited by R. L. Hamblin and J. H. Kunkel. New Brunswick, N.J.: Transaction.
- Levinger, George. 1979. "A Social Exchange View on the Dissolution of Pair Relationships." Pp. 169-93 in *Social Exchange in Developing Relationships*, edited by R. Burgess and T. Huston. New York: Academic Press.
- Light, Ivan, Im Jung Kwun, and Deng Zhong. 1990. "Korean Rotating Credit Associations in Los Angeles." *Amerasia* 16 (1): 35-54.
- Lynch, Michael, Ross M. Miller, Charles R. Plott, and Russel Porter. 1984. "Product Quality, Information Efficiency, and Regulations in Experimental Markets." Social Science Working Paper no. 528, California Institute of Technology.
- Markovsky, Barry, David Willer, and Travis Patton. 1988. "Power Relations in Exchange Networks." *American Sociological Review* 53:220-36.
- Marwell, Gerald, and David R. Schmitt. 1975. *Cooperation: An Experimental Analysis*. New York: Academic Press.
- Messick, David M., and Marilyn B. Brewer. 1983. "Solving Social Dilemmas." Pp. 11-44 in *Review of Personality and Social Psychology*, vol. 4. Edited by L. Wheeler and P. Shaver. Beverly Hills, Calif.: Sage.
- Messick, David M., H. Wilke, M. B. Brewer, R. M. Kramer, P. E. Zemke, and L. Lui. 1983. "Individual Adaptations and Structural Change as Solutions to Social Dilemmas." *Journal of Personality and Social Psychology* 44:294-309.
- Milgrom, Paul, and John Roberts. 1982. "Predation, Reputation, and Entry Deterrence." *Journal of Economic Theory* 27:280-312.
- Molm, Linda. 1991. "Affect and Social Exchange: Satisfaction in Power-Dependence Relations." *American Sociological Review* 56:475-93.
- Orbell, John, and Robyn M. Dawes. 1981. "Social Dilemmas." Pp. 37-65 in *Progress in Applied Social Psychology*, vol. 1. Edited by G. Stephenson and J. Davis. New York: Wiley.
- . 1991. "A 'Cognitive Miser' Theory of Cooperators' Advantage." *American Political Science Review* 85 (2): 515-28.
- Orbell, John, Peregrine Schwartz-Shea, and Randy Simmons. 1984. "Do Cooperators Exit More Readily Than Defectors?" *American Political Science Review* 78: 147-62.



- Plott, Charles R. 1986. "Rational Choice in Experimental Markets." *Journal of Business* 59, no. 4, pt. 2: S301-S327.
- Podolny, Joel. 1990. "On the Formation of Exchange Relations in Political Systems." *Rationality and Society* 2 (3): 359-78.
- Popkin, S. 1981. "Public Choice and Rural Development—Free Riders, Lemons, and Institutional Design." Pp. 43-80 in *Public Choice and Rural Development*, edited by C. Russel and N. Nicholson. Washington, D.C.: Resources for the Future.
- Radner, Roy, and Andrew Schotter. 1989. "The Sealed-Bid Mechanism: An Experimental Study." *Journal of Economic Theory* 48:179-220.
- Rasmusen, Eric. 1989. *Games and Information: An Introduction to Game Theory*. New York: Basil Blackwell.
- Raub, Werner, and Jeroen Weesie. 1990. "Reputation and Efficiency in Social Interactions: An Example of Network Effects." *American Journal of Sociology* 96 (3): 626-54.
- Rosenblatt, Paul C. 1977. "Needed Research on Commitment in Marriage." Pp. 73-86 in *Close Relationship: Perspectives on the Meaning of Intimacy*, edited by George Levinger and Harold L. Raush. Amherst: University of Massachusetts Press.
- Rubin, J. A., and Bert R. Brown. 1973. "Becoming Committed." Pp. 157-81 in *Liking and Loving*, edited by Z. Rubin. New York: Holt.
- Rusbult, Caryl E., and Bram P. Buunk. 1993. "Commitment Processes in Close Relationships: An Interdependence Analysis." *Journal of Social and Personal Relationships* 10:175-204.
- Schuessler, Rudolf. 1989. "Exit Threats and Cooperation under Anonymity." *Journal of Conflict Resolution* 33 (4): 728-49.
- Shapiro, Carl. 1982. "Consumer Information, Product Quality and Seller Reputation." *Bell Journal of Economics* 13:20-35.
- Shapiro, Susan P. 1987. "The Social Control of Impersonal Trust." *American Journal of Sociology* 93:623-58.
- Siamwalla, Ammar. 1978. "Farmers and Middlemen: Aspects of Agricultural Marketing in Thailand." *Economic Bulletin for Asia and the Pacific* (June): 38-50.
- Taylor, Michael. 1987. *The Possibility of Cooperation*. Cambridge: Cambridge University Press.
- Vanberg, Viktor J., and Roger D. Congleton. 1992. "Rationality, Morality, and Exit." *American Political Science Review* 86 (2): 418-31.
- Wilson, Robert. 1985. "Reputations in Games and Markets." Pp. 27-62 in *Game-Theoretic Models of Bargaining*, edited by Alvin Roth. Cambridge: Cambridge University Press.
- Yamagishi, Toshio. 1986. "The Provision of a Sanctioning System as a Public Good." *Journal of Personality and Social Psychology* 51 (1): 110-16.
- . 1992. "Prisoner's Dilemma Networks: Simulations and Experimental Work." Paper presented at the annual meeting of the American Sociological Association, Pittsburgh.
- Yamagishi, Toshio, Nahoko Hayashi, and Nobuhito Jin. 1992. "Prisoner's Dilemma Networks: Selection Strategy versus Action Strategy." Paper presented at the Fifth International Conference on Social Dilemmas, Bielfeld, Germany.
- Yamagishi, Toshio, and Midori Yamagishi. 1993. "Trust and Commitment as Alternative Responses to Social Uncertainty." Paper presented at the Social Network Conference, Whistler, British Columbia.
- Zand, D. E. 1972. "Trust and Managerial Problem Solving." *Administrative Science Quarterly* 17:229-39.
- Zucker, Lynne G. 1986. "Production of Trust: Institutional Sources of Economic Structure, 1840-1920." Pp. 53-111 in *Research in Organizational Behavior*, edited by B. Staw and L. Cummings. Greenwich, Conn.: JAI Press.

# Organizational Niches and the Dynamics of Organizational Mortality<sup>1</sup>

Joel A. C. Baum  
*University of Toronto*

Jitendra V. Singh  
*University of Pennsylvania*

Departing from the population-level emphasis of density dependence research in organizational ecology, the authors examine how organizational niches within populations influence patterns of competition and mutualism. Organizational niches characterize intra-population variation in productive capacities and resource requirements and are operationalized for a population of day care centers (DCCs) based on the ages of children they are licensed to enroll. The authors find competitive effects of overlap density, the aggregate overlap of a DCC's organizational niche with those of all others, and mutualistic effects of nonoverlap density, the aggregate nonoverlap, which are strongest among neighboring DCCs. The authors discuss the implications of their findings for studying organizational population dynamics.

## INTRODUCTION

One recent theme in organizational sociology has been how organizations and aggregates of organizations evolve over time. Among the prominent

<sup>1</sup> This research was funded in part by grants from the Office of Research Administration, University of Toronto and the Sol C. Snider Entrepreneurial Center, Wharton School, University of Pennsylvania. For comments on earlier versions of this paper, we are grateful to Paul DiMaggio, Kathy Eisenhardt, John Freeman, John Kimberly, Mike Hannan, Paul Hirsch, Dan Levinthal, Marshall Meyer, Joe Porac, Dick Scott, Mike Useem, and the *AJS* reviewers. We are also grateful to participants in seminars held at the University of Michigan, Northwestern University, University of Pennsylvania, Stanford University, and University of California, Los Angeles. We presented an earlier version of this paper at the Academy of Management national meetings, Las Vegas, Nevada, August 1992. For assistance with data collection and coding we also thank Debbie Freeman, Brian Gaon, Gayle Greenbaum, and Sonja Saksida. Direct correspondence to Joel A. C. Baum, Division of Management and Economics, University of Toronto, Scarborough Campus, 1265 Military Trail, Scarborough, Ontario M1C 1A4.

theoretical approaches to the question are institutional theory (Meyer and Scott 1992; Powell and DiMaggio 1991; Zucker 1988) and organizational ecology (Hannan and Carroll 1992; Hannan and Freeman 1989; Singh 1990). Although the general themes of these two approaches are distinct, more recently some convergence has occurred (Singh and Lumsden 1990). One such synthetic approach is the density dependence model, which combines institutional and ecological perspectives to explain how founding and failure rates are related to population density, the number of organizations in a population (Hannan and Carroll 1992).

The density dependence model focuses on the dynamics of competition (i.e., organizations diminishing each other's fates) and mutualism (i.e., organizations enhancing each other's fates) to explain the evolution of organizational populations. Hannan (1986) and his colleagues (Hannan and Freeman 1989; Hannan and Carroll 1992) have proposed that initial increases in density produce mutualism by increasing the institutional legitimacy of a population. The capacity of a population's members to acquire resources increases greatly when those who control resources take the organizational form for granted. However, as a population continues to grow, the nature of interdependence among a population's members becomes competitive. When there are few organizations in a population, competition with others for scarce common resources can easily be avoided, but as the number of potential competitors grows, avoidance becomes more difficult. Combined, the mutualistic effects of initial increases in density and the competitive effects of further increases suggest nonmonotonic effects of density on founding and failure rates in organizational populations. Hannan and Freeman (1989), Hannan and Carroll (1992), and others have found substantial empirical support for the non-monotonic relationships predicted by the density dependence model in a variety of organizational populations.

The emphasis of much of the existing density dependence research has been at the population level, and there has been less interest in examining differences among organizations within populations. Thus, critics have sometimes charged that density dependence research treats all members of a population as more or less equivalent (Winter 1990, p. 286). The emphasis on the population level has also led to a focus on diffuse forms of competition and mutualism among many or all organizations in a population rather than more direct competition and mutualism among rival or complementary population members. However, earlier theoretical work in organizational ecology and recent empirical research suggest the substantive importance of differences among organizations for intra-population patterns of competition and mutualism (Singh 1993).

For example, in their seminal paper, Hannan and Freeman (1977, pp. 945–46) proposed the idea that organizations of different sizes in a

population use different strategies and structures and, therefore, large and small organizations, though engaged in similar activities, depend on different mixes of resources. This conjecture implies that organizations compete most intensely with organizations of similar size. Although this possibility was ignored until recently (Hannan, Ranger-Moore, and Banaszak-Holl 1990), studies of the Manhattan banking industry (Banaszak-Holl 1992), the Manhattan hotel industry (Baum and Mezias 1992), and the U.S. health maintenance organization industry (Wholey, Christianson, and Sanchez 1992) provide empirical support for such size-localized competition. This research shows that the intensity of competition faced by a member of an organizational population depends not only on the number of other organizations but also on their sizes.

Other recent studies that examine how specific, theoretically discerned organizational subpopulations interact capture some additional effects of organizational differences on patterns of competition. In one approach, populations are disaggregated according to geographic proximity. For example, Carroll and Wade (1991) disaggregated the population of U.S. breweries according to their geographic locations to investigate whether the effects of competition are stronger for the population defined at a local geographic level than for a national population. They found that the addition of a brewery had a larger competitive effect on the failure rate at the local geographic level. Swaminathan and Wiedenmayer (1991) report similar findings in a study of the German brewing industry.

Research on strategic groups also demonstrates that organizational populations and industries are not homogeneous and that distinct subgroupings can be identified in terms of strategic and structural organizational characteristics (McGee and Thomas 1986; Thomas and Venkatraman 1988; Ulrich and McKelvey 1990). The strategic group construct captures the idea that the impact of competition on an organization's performance depends on the location of its various rivals in the relevant competitive space. Two recent studies illustrate the influence of strategic groups on patterns of competition. Barnett (1993) found that competition among multipoint (i.e., rivals that meet in more than one market segment or business) and single-point rivals in the U.S. customer premises equipment and services industry was localized within strategic groups (i.e., among firms with similar pricing and product policies as well as common customers, suppliers, and distribution channels). In a related study of profitability in the U.S. pharmaceutical industry, Cool and Dierickx (1993) showed that increasing competition led to declining industry profitability and that increasing competition was associated with changes in strategic group structure that led to a shift from within-group to between-group competition.

This research supports the idea that organizational differences lower

the potential for competition by reducing the number of direct competitors (Baum and Mezias 1992). However, several theorists argue that in addition to lowering the intensity of competition, differentiation among a population's members leads to complementary functional differences that create mutualistic interdependencies (Astley 1985; Barnett and Carroll 1987; Fombrun 1986; Hawley 1950). According to Hawley (1950, pp. 201–3) for example, competition leads to the emergence of a more complex division of labor characterized by functionally differentiated organizations that fulfill complementary roles. In this approach, competition among like entities for finite resources pushes less-fit competitors out of the market, and organizations become differentiated as entrepreneurs seek out distinct functions in which they hold a competitive advantage. In support of these ideas, two studies of the California wine industry (Delacroix, Swaminathan, and Solt 1989; Swaminathan and Delacroix 1991) show that differentiation occurred in response to competition and that both functional differentiation at the time of founding and lateral migration into a neighboring market niche lowered the failure rates of California wineries.

Carroll's (1985) resource partitioning model possesses many similarities to Hawley's (1950) description of competitive processes, as well as Hannan and Freeman's (1977) model of size-localized competition. Carroll proposed that competition among large generalist organizations to occupy the center of the market frees peripheral resources that can be used by small specialized members of the population to provide complementary products or services without engaging in direct competition with larger generalist organizations. He called the process generating this outcome "resource partitioning." In a study of newspaper organizations, Carroll (1985) found that, during the process of concentration, the failure rate of generalist newspaper organizations increased, while the failure rate of small specialist newspaper organizations decreased, providing evidence that resource partitioning was at work.

Taken together, the foregoing theory and research suggest that intrapopulation patterns of competition and mutualism will depend on the extent to which population members require similar resources and possess complementary functional differences: the more similar the resource requirements, the greater the potential for competition; the more complementary the functional roles, the greater the potential for mutualism. Consequently, considering intrapopulation organizational differences more explicitly in population dynamics models may facilitate understanding patterns of competition and coexistence within organizational populations.

Therefore, in this paper, we focus on organizational niches within a population. We think the organizational niche concept (Baum and Singh

1994; Hutchinson 1978; Levins 1968; McPherson 1983) provides a way to incorporate intrapopulation differences in resource requirements and functional roles into models of population dynamics. Whereas the niche, a location in multidimensional space defined by the resources in the environment, is a concept well known in organizational ecology, the usual focus is on the niches of populations (Hannan and Freeman 1977, 1989). The organizational niche, however, refers to variation in productive capacities and resource requirements at the organization level. Organizational populations encompass multiple organizational niches. Thus, in addition to the "macro-niche" of the population, organizations have their own "micro-niches" as well (McKelvey 1982, pp. 109–10).

Every organization in a population occupies an organizational niche characterized by a set of organizational capabilities and a location in resource space. Thus, depending on the organizational niches they target, organizations face different competitive landscapes. Organizations that operate in the same organizational niche affect the potential for competition for scarce resources. Organizations that occupy nonoverlapping organizational niches influence the degree of mutualism by, for example, cooperating directly or providing products or services that create complementary demand. Organizations occupying partially overlapped organizational niches influence the potential for both competition and mutualism, because these organizations, while attempting to acquire some of the same resources, also may have different capabilities that result in direct cooperation or complementary demand enhancement. Thus, a focus on organizational niches within populations helps to sort out the overlapping resource requirements and complementary differences that may underlie competitive and mutualistic forces within a population. Incorporating such systematic organizational differences into models of population dynamics may help to open a dialogue between researchers in organizational ecology and researchers in organization theory and strategic management with stronger interests at the organization level.

In this paper we test a model of population dynamics that incorporates differences in organizational niches using data for a population of day care centers (DCCs). The organizational niches of DCCs are operationalized using a critical resource dimension, which corresponds to distinct organizational capabilities and assets, the age ranges of children DCCs are licensed to enroll. The DCCs compete with each other at different levels of intensity depending on the extent of overlap in the ages of children they are licensed to enroll. Although this dimension does not exhaust all organizational niche characteristics for DCCs, this characterization of DCC organizational niches provides a useful way to separate competitive and mutualistic processes affecting DCC foundings (Baum and Singh 1994). Therefore, we think it is fundamental to this population

and explicates our theory well. Following other recent research (e.g., Carroll and Wade 1991; Swaminathan and Wiedenmayer 1991), we also use geographical location information to distinguish between direct competition among neighboring DCCs and diffuse competition with more distant DCCs. We test the model using a dynamic analysis of the effects of organizational niche overlap on the DCC mortality rate.

This study is part of a research program in which we investigate the implications of organizational niche overlap for population dynamics. In an earlier paper (Baum and Singh 1994), we found that different patterns and probabilities of entry accompany different choices of organizational niche at founding in the DCC population. In this study we turn our attention to the dynamics of organizational failure. The theoretical argument in this paper expands the scope of our earlier work to include organizational mortality, thereby addressing the other side of the population dynamics question. If organizational mortality patterns are found to differ significantly by organizational niche, then, taken together, these two studies will demonstrate that, not only do organizations occupying different organizational niches have different likelihoods of being established, they endure different survival fates after founding.

#### ORGANIZATIONAL NICHES AND PATTERNS OF COMPETITION AND MUTUALISM

Theory in organizational ecology suggests that the intensity of competition among organizations in a population is largely a function of the similarity in resource requirements: the more similar the resource requirements, the greater the potential for intense competition (Hannan and Freeman 1977, 1989). Following this argument, we view the potential for competition between organizations in any two organizational niches as proportional to the extent of the overlap in their resource requirements.

More formally, we denote the potential for competition between organizations in two organizational niches  $i$  and  $j$  using an organizational niche overlap weight,  $w_{ij}$ , where  $0 \leq w_{ij} \leq 1$ . At one extreme, when  $w_{ij} = 0$ , there is no potential for competition for the underlying resources between organizations in those organizational niches. At the other extreme, when  $w_{ij} = 1$ , in other words, when organizations occupy the same organizational niche, there is a high potential for competition for the underlying resources. More precisely, the organizational niche overlap weight,  $w_{ij}$ , the potential competition experienced by an organization in organizational niche  $i$  due to the presence of an organization in organizational niche  $j$ , is measured by the ratio of the overlap between organizational niches  $i$  and  $j$  and the width of organizational niche  $i$ .

Specified in this manner, it is evident that organizational niche overlap

weights are, in general, asymmetric:  $w_{ij} \neq w_{ji}$ . Thus, organizations in organizational niche  $i$  can have a different competitive impact on organizations in organizational niche  $j$  than vice versa. For example, depending on the extent of overlap in the ages of children they are licensed to enroll, DCCs compete with each other at different levels of intensity. The DCCs licensed to enroll only infants or only toddler-aged children do not compete with each other, while both compete with DCCs licensed to enroll both infant and toddler-aged children. However, the organizational niche overlaps are asymmetric: the overlaps are complete for infant-only and toddler-only DCCs but only partial for infant-toddler DCCs. Thus, infant-toddler DCCs may represent a greater competitive threat to infant-only and toddler-only DCCs than vice versa.<sup>2</sup> We think such a focus on the resource overlaps of multiple organizational niches within a population provides a simple way to isolate competitive and noncompetitive forces within the population.

### Overlap Density

To measure the potential competition faced by all organizations in an organizational niche, we define a property of every organizational niche, the overlap density. The overlap density for organizations in organizational niche  $i$  (at time  $t$ ) is given by

$$\text{overlap density}_{it} = N_{it} + \sum_{j \neq i} w_{ij} N_{jt}, \quad (1)$$

where  $N_{it}$  is the number of organizations in organizational niche  $i$  at time  $t$ ,  $N_{jt}$  is the number of organizations in organizational niche  $j$  at time  $t$ , and  $w_{ij}$  is the organizational niche overlap weight of organizational niche  $i$  with organizational niche  $j$ .

Overlap density has some notable properties. First, overlap density differs by organizational niche. Therefore, while organizations occupying the same organizational niche face the same competitive landscape, organizations in different organizational niches face different competitive landscapes. Second, overlap density is time variant. Therefore, it captures not only cross-sectional (i.e., across organizational niches) but temporal information on the changing distribution of competitors across organizational niches. That is, not only do different organizations face different competitive landscapes, these landscapes vary over time. Third, in general the values of overlap density are smaller than population den-

<sup>2</sup> We discuss measurement of DCC organizational niches and organizational niche overlaps in more detail below.



sity, the total number of organizations in the population, unless all population members occupy the same organizational niche (in which case, the two are identical).

In this paper we explore the consequences of organizational niche overlap on patterns of mortality within an organizational population. More specifically, we study the effects of overlap density on organizational mortality rates. Since greater overlap density implies greater competition for resources between a focal organization and all other organizations in the population, and since competition for resources can influence the likelihood of mortality, for example, because some organizations attract more resources or are more efficient at converting common resources into high quality services than others, leaving the others resource starved, we hypothesize:

**HYPOTHESIS 1.**—*Overlap density is positively related to the mortality rate.*

### Nonoverlap Density

Together with overlap density, a complementary property, nonoverlap density, also can be defined for every organizational niche. Whereas overlap density captures the potential for competition by aggregating organizational niche overlaps, nonoverlap density aggregates the absence of resource overlaps. Nonoverlap density is an estimate of the number of organizations whose resource requirements do not overlap with those in the focal organizational niche. For each organization, overlap density aggregates the resource overlaps with all other organizations in the population, capturing the potential for competition, and nonoverlap density aggregates the resource nonoverlaps, capturing information about non-competing organizations. Thus, overlap density and nonoverlap density disaggregate the competitive and noncompetitive forces for each organization in a population with respect to the underlying resource dimensions. More formally,

$$\text{population density} = \text{overlap density} + \text{nonoverlap density}.$$

Using equation (1),

$$\text{nonoverlap density}_{it} = N_t - \left( N_{it} + \sum_{j \neq i} w_{ij} N_{jt} \right), \quad (2)$$

where  $N_t$  is the total number of organizations in the population (i.e., population density) at time  $t$ .

We have argued separately that nonoverlap density has a positive (i.e., mutualistic) relationship with the founding rate (Baum and Singh 1994).

We think there will be parallel influences on the mortality rate for several reasons. Nonoverlap density captures information about differences in organizational niches. As described earlier, research has shown that differentiation that segments or separates the resource requirements of organizations reduces or eliminates competition between them (e.g., Baum and Mezias 1992; Carroll 1985; Delacroix et al. 1989). Such differentiation also can create complementary functional differences that create mutualistic interdependencies among organizations with nonoverlapping niches (Astley 1985; Barnett and Carroll 1987; Fombrun 1986; Hawley 1950). Organizations that occupy nonoverlapping organizational niches may have different capabilities that result in direct cooperation. Such organizations also may influence the degree of mutualism by offering products or services that create complementary demand. For example, DCCs licensed to enroll infant-aged children may create future demand for those licensed to enroll toddler-aged children. Or, they can cooperate directly by referring potential customers to each other. Nonoverlap density also may capture some information about the legitimacy and institutional embeddedness of the organizational form itself (Baum and Oliver 1992; Hannan and Freeman 1989). Given a lack of competition for the underlying resources and the potential facilitative effects of mutual demand enhancement and widening social acceptance of the organizational form, we think that nonoverlap density will have mutualistic effects on the mortality rate. Therefore, we hypothesize:

**HYPOTHESIS 2.**—*Nonoverlap density is negatively related to the mortality rate.*

Thus, we have two broad hypotheses about the effects of overlap density and nonoverlap density on the failure rate of organizations. Below, we develop more precise statements of these hypotheses in relation to the specific organizational niche dimension used in this article for an empirical investigation of these hypotheses. We develop these statements in the context of local and diffuse geographic patterns of competition and mutualism in organizational niches.

#### MEASURING THE ORGANIZATIONAL NICHES OF DCCs

Our study focuses on patterns of competition and mutualism among the members of a population of DCCs in metropolitan Toronto from 1971 to 1989. We define the organizational niches of DCCs in terms of the ages of the children they are licensed to enroll. Since 1946, DCCs operating in metropolitan Toronto have been required by the Ontario Day Nurseries Act to meet certain minimum standards to obtain an annual operating license from the Ontario Ministry of Community and Social Services.

The DCCs are licensed to provide full-time (more than six consecutive hours) collective care to five or more children in one or more of the following age ranges: infant, birth to 18 months; toddler, 19–30 months; preschool, 31–60 months; and school age, 61–120 months.

The license issued to a DCC specifies which of these age ranges it may serve. While DCCs must be licensed to enroll children in a particular age range legally, there are no regulatory constraints placed on what age ranges individual DCCs can apply to serve. The DCCs are free to attempt to be licensed in any or all age ranges. To become licensed to enroll children in a particular age range, the licensing criteria specified for that age range in the Day Nurseries Act must be met. These criteria include staff, program, equipment, and facility requirements geared to the developmental needs of children in each age range. Therefore, the configurations of human and material resources possessed by DCCs differ according to the particular age ranges served. In addition, the Day Nurseries Act requires DCCs serving more than one age range to allocate these configurations of resources exclusively to the care of children in the specified age groups. Therefore, DCCs licensed to serve children in several age ranges possess more complex, diverse, and internally differentiated configurations of human and material resources. Thus, the age range specification in a DCC's license provides information on its organizational and caregiving capabilities, as well as formally targeted client resources.

One benefit of defining the organizational niches of DCCs according to the particular age ranges they are licensed to serve is that the organizational niche is measured in fundamental rather than realized terms.<sup>3</sup> That is, organizational niches are characterized in terms of the resources that DCCs have the capacity to procure and would aim to exploit if there were no competitors, rather than the set of resources that is acquired under competitive conditions (i.e., the number and ages of children actually enrolled). Clearly, the number of children actually enrolled by a DCC can be different from its licensed capacity, particularly as a result of competitive pressures. Thus, in contrast to McPherson (1983, 1990), who suggests that organizational niches can be defined in terms of the attributes (e.g., age, occupation, sex, and education) of the members, customers, or clients affiliated with an organization under competitive conditions, the approach taken here focuses on the attributes or capacities of organizations and their formally targeted members, customers, or clients. This definition is advantageous because a lack of observed overlap in actual resource use can result from intense competition rather than

<sup>3</sup> We are grateful to Mike Hannan for helpful discussions that clarified this point.

TABLE 1  
DCC ORGANIZATIONAL NICHE WIDTHS AND ORGANIZATIONAL  
NICHE OVERLAPS

	ORGANIZATIONAL NICHE*									
	I	T	P	S	IT	TP	PS	ITP	TPS	ITPS
I.....	18									
T.....	0	12								
P.....	0	0	30							
S.....	0	0	0	60						
IT.....	18	12	0	0	30					
TP.....	0	12	30	0	12	42				
PS.....	0	0	30	60	0	30	90			
ITP.....	18	12	30	0	30	42	30	60		
TPS.....	0	12	30	60	12	42	90	42	102	
ITPS....	18	12	30	60	30	42	90	60	102	120

NOTE.—The width (in months) of each age range is given on the diagonal; the overlaps (in months) between age ranges are reported below the diagonal. Only observed configurations of licensed age ranges are included.

\* I = infant, 0–18 months; T = toddler, 19–30 months; P = preschool, 31–60 months; S = school age, 61–120 months; IT = 0–30 months; TP = 19–60 months; PS = 31–120 months; ITP = 0–60 months; TPS = 19–120 months; and ITPS = 0–120 months.

dissimilar fundamental organizational niches (Hannan and Carroll 1992, p. 28). In this study we use information on the positioning of organizations in the resource environment contained in the license specification of DCCs to describe their fundamental organizational niches and the potential for competition among DCCs in the population. Using this approach, we identified 10 different organizational niches that are occupied by DCCs.<sup>4</sup>

Below, we (1) determine the extent of overlap between organizational niches, (2) derive organizational niche overlap weights,  $w_{ij}$ , measuring the potential for competition between DCCs in the organizational niches, (3) estimate the extent of competition faced by DCCs at each time  $t$  by calculating values of overlap density and nonoverlap density for every organizational niche in every observation year, and (4) disaggregate overlap density and nonoverlap density into local and diffuse components for every organizational niche using information on the geographic locations of DCCs.

Table 1 shows the width of each organizational niche (i.e., range of ages of children, in months, that can be enrolled by DCCs in each organi-

<sup>4</sup> In support of our characterization of DCC organizational niches as fundamental, as we discuss below, the majority of DCCs did not change their licensed age ranges during the observation period.

TABLE 2  
DCC ORGANIZATIONAL NICHE OVERLAP WEIGHTS

ORGANIZATIONAL NICHE <i>j</i>	ORGANIZATIONAL NICHE <i>i</i>									
	I	T	P	S	IT	TP	PS	ITP	TPS	ITPS
I.....	1	0	0	0	.600	0	0	.300	0	.150
T.....	0	1	0	0	.400	.285	0	.200	.117	.100
P.....	0	0	1	0	0	.714	.333	.500	.294	.250
S.....	0	0	0	1	0	0	.667	0	.588	.500
IT.....	1	1	0	0	1	.285	0	.500	.117	.250
TP.....	0	1	1	0	.400	1	.333	.700	.411	.350
PS.....	0	0	1	1	0	.714	1	.500	.882	.750
ITP.....	1	1	1	0	1	1	.333	1	.411	.500
TPS.....	0	1	1	1	.400	1	1	.700	1	.850
ITPS.....	1	1	1	1	1	1	1	1	1	1

NOTE.—The organizational niche overlap weights,  $w_{ij}$ , in the table are the ratio of the overlap between two organizational niches *i* and *j* and the width of organizational niche *i*. Thus, the potential competitive effect of DCCs in organizational niche *j* on those in organizational niche *i* are reported in column *i*. Values for  $w_{ij}$  range from "0" (i.e., no overlap, no potential for competition for children of any age) to "1" (i.e., 100% overlap, potential for competition for children of all licensed ages). The values for the overlaps and widths are given in table 1. Abbreviations for organizational niches are defined in a note to table 1.

zational niche) and the matrix of overlaps among them (i.e., the portion of the client resource space, in months, that DCCs in the different organizational niches occupy jointly).<sup>5</sup> Table 2 gives the organizational niche overlap weights  $w_{ij}$  (and  $w_{ji}$ ) between DCCs in all pairs of organizational niches derived from the overlaps given in table 1. As table 1 illustrates, the width of the toddler (T) organizational niche is the narrowest and most specialized (width = 12 months), while that of the infant–toddler–preschool–school-age (ITPS) organizational niche is the broadest and most generalized (width = 120 months).

Table 1 also shows that the highly specialized organizational niches do not overlap (i.e., overlap = 0 months), producing zero overlap weights in table 2. However, the different DCC organizational niches do overlap frequently. Notably, because of differences in their organizational niche widths, the overlaps between specialist and more generalist organizational niches are asymmetric: specialists compete more intensely with generalists than vice versa. For example, the overlap between the T and TPS organizational niches is 12 months. This overlap represents 100%

<sup>5</sup> The widths (in months) of the licensed age ranges are used to compute the overlaps in table 1, since, on average, the number of children of each age is approximately equal during the observation period. As a result, the distribution of resources (i.e., children) across the age ranges is approximately equal to the widths of the age ranges.

of the width of the T organizational niche and results in an organizational niche overlap weight of "1" in table 2. However, the overlap represents only 11.7% of the TPS organizational niche and results in an organizational niche overlap weight of .117 in table 2. In general, the more similar the widths of two overlapped organizational niches, the more symmetric their organizational niche overlap weights and competitive interdependencies tend to be.

The matrix of organizational niche overlap weights in table 2 contains other useful information on competition in the DCC population. The overall mean for the matrix weights in table 2 indicates how closely packed the DCC organizational niches are in the client resource space. A mean near one indicates that the different organizational niches occupied by the members of the DCC population are very similar and that the client resource space is filled with intensely competing organizations. A mean near zero indicates that the DCC organizational niches are quite dissimilar and that the client resource space is not tightly packed. The overall mean for the matrix in table 2 is .504, indicating that the client resource space is moderately packed and, on average, the organizational niches of DCCs overlap slightly more than 50%. The variance in the organizational niche overlap weights gives information about the clustering of the DCC organizational niches in the client resource space. A high variance indicates that the organizational niches are clustered into competitive groupings, with high competition within the groupings and low competition between them. The variance in the organizational niche overlap weights in table 2 is .426, indicating a relatively high level of variability around the mean of .504.

Table 3 presents the number of DCCs in each different organizational niche at the start of each observation year. Table 3 also gives the population density, the total number of DCCs in metropolitan Toronto at the start of each observation year. Table 4 gives the values of overlap density, which capture the potential competition faced by DCCs in a particular organizational niche, for all organizational niches in all years. Values for overlap density were computed by summing yearly values for the number of DCCs licensed in a specific organizational niche (see table 3) multiplied by the appropriate resource overlap weights,  $w_{ij}$  (see table 2). For example, using equation (1), the overlap density (rounded to the nearest number of competitors) for DCCs licensed to serve the IT organizational niche in 1981 is

$$\begin{aligned}
 (1 \times 10_{IT}) + (.6 \times 1_I) + (.4 \times 1_T) + (0 \times 135_P) \\
 + (0 \times 67_S) + (.4 \times 9_{TP}) + (0 \times 91_{PS}) + (1 \times 14_{ITP}) \\
 + (.4 \times 11_{TPS}) + (1 \times 8_{ITPS}) = 41,
 \end{aligned}$$

TABLE 3

DCC ORGANIZATIONAL NICHE DENSITIES AND POPULATION DENSITY,  
1971-89

YEAR	ORGANIZATIONAL NICHE										DCC
	I	T	P	S	IT	TP	PS	ITP	TPS	ITPS	
1971 ....	0	0	47	2	3	0	48	1	3	5	109
1972 ....	0	0	49	2	5	0	50	2	2	7	117
1973 ....	0	0	51	4	7	0	54	3	1	11	131
1974 ....	0	0	60	5	8	1	57	4	0	15	150
1975 ....	1	0	80	6	13	4	61	8	0	11	184
1976 ....	1	0	98	23	15	4	74	9	1	11	236
1977 ....	1	0	107	27	12	2	81	12	1	11	254
1978 ....	1	0	113	27	14	2	79	11	4	10	264
1979 ....	1	1	124	46	11	3	82	15	8	6	297
1980 ....	1	1	131	60	10	6	87	17	9	7	329
1981 ....	1	1	135	67	10	9	91	14	11	8	347
1982 ....	1	1	151	75	12	11	101	16	14	8	390
1983 ....	1	0	152	81	14	18	107	18	15	8	414
1984 ....	0	0	160	86	15	23	111	21	17	7	440
1985 ....	0	0	154	87	15	40	115	29	23	9	472
1986 ....	1	1	153	91	18	54	132	35	28	13	526
1987 ....	2	1	158	97	20	63	134	47	42	15	579
1988 ....	2	2	164	104	23	65	138	49	44	14	605
1989 ....	3	7	158	103	19	68	141	59	39	16	613

NOTE.—Abbreviations for organizational niches are defined in a note to table 1.

where  $N_{IT}$ ,  $N_D$ , . . . ,  $N_{ITPS}$  are the numbers of DCCs in each organizational niche in 1981. The value for nonoverlap density is equal to the difference between the total number of DCCs (i.e., population density) and overlap density (i.e.,  $347 - 41 = 306$ ).

### Local and Diffuse Competition and Mutualism in Organizational Niches

Several recent studies of the effects of geographic proximity on competition have found that the addition of an organization to a population has a greater impact on the intensity of competition in a more tightly bounded geographic area (e.g., Carroll and Wade 1991; Swaminathan and Wiedenmayer 1991). The geographic proximities of organizations can influence patterns of interaction among them. For example, the geographic locations of organizations often dictate where potential clients or customers come from, resulting in more intense competition among neighboring organizations. In the DCC population, clients tend to come from geo-

TABLE 4  
OVERLAP DENSITIES BY ORGANIZATIONAL NICHE, 1971-89

YEAR	ORGANIZATIONAL NICHE									
	I	T	P	S	IT	TP	PS	ITP	TPS	ITPS
1971....	9	14	104	58	10	77	73	57	66	57
1972....	14	20	110	61	14	83	77	62	70	61
1973....	21	26	120	70	21	91	86	70	79	70
1974....	27	24	137	77	27	105	96	82	88	79
1975....	33	36	164	78	34	127	106	99	98	88
1976....	36	40	197	109	37	152	138	117	126	113
1977....	36	37	214	120	36	163	151	125	137	122
1978....	39	40	222	120	41	171	153	131	140	125
1979....	33	45	238	142	37	182	173	137	158	139
1980....	35	51	257	163	41	197	194	149	177	156
1981....	33	53	268	177	41	206	207	154	189	165
1982....	37	62	301	198	47	232	232	174	212	186
1983....	41	72	319	211	53	247	246	185	226	198
1984....	43	85	339	221	59	265	260	199	239	210
1985....	53	120	370	234	78	297	279	224	259	229
1986....	67	151	415	264	99	338	314	257	294	260
1987....	84	187	459	288	125	381	344	292	326	290
1988....	88	199	474	300	131	394	357	302	338	301
1989....	97	192	481	299	141	402	359	311	341	305

NOTE.—See the text for an example calculation. Abbreviations for organizational niches are defined in a note to table 1.

graphically contiguous areas at a higher rate than from more distant places. Since day care services are provided on the premises of DCCs, parents must transport their children to and from DCCs daily. This transportation cost creates a localized pattern of demand, effectively partitioning the day care market into many local geographic segments. As a result of the geographic segmentation of the demand for day care, the location of a DCC influences the potential for direct competition for clients with specific other DCCs providing services to children in overlapping age ranges.

While providing similar services may result in direct competition for clients among geographically proximate DCCs, indirect or diffuse competition among more distant DCCs with overlapped age ranges may result from other resources that are age range specific but not tied to particular geographic locations. One such resource is financial assistance provided by the Metropolitan Toronto Children's Services Division for the purchase of DCC services for the children of city residents who qualify for



financial assistance. These subsidized fees are budgeted and allocated to families in need by this municipal agency based on the four age ranges defined in the Ontario Day Nurseries Act. Another client-specific resource is skilled labor that meets staff qualification requirements of the Day Nurseries Act and is specialized in care for children of particular ages. Although we expect diffuse competitive effects of overlap density, if, as we have argued, competition among DCCs for clients is geographically localized, it seems reasonable to expect stronger competitive effects of local overlap density.

The nature of mutualistic effects of nonoverlap density also may depend on organizational proximity. As developed above, nonoverlap density captures information about complementary differences among DCCs. Complementary differences make it possible for DCCs to cooperate with mutual benefit and to create demand for each other's services by simply providing complementary services (e.g., creation of demand for infant care increases the demand for toddler care). The DCCs with nonoverlapping age ranges also may produce a form of mutualism that reflects the contribution of noncompeting organizations to institutional legitimacy (Hannan and Freeman 1989). However, the geographic segmentation of the demand for child care services suggests that the potential for cooperation and complementary demand enhancement to produce mutualistic effects is likely to be greatest among neighboring DCCs. Therefore, although we expect both local and diffuse mutualistic effects of nonoverlap density, we expect stronger mutualistic effects of local nonoverlap density.

To distinguish the local and diffuse effects of overlap density and nonoverlap density analytically, we calculated separate local and diffuse measures for each type of density based on the geographic proximity of DCCs within metropolitan Toronto. Local density measures were computed using information on the DCCs operating in each of the six constituent cities that make up metropolitan Toronto.<sup>6</sup> Diffuse density measures for each constituent city were computed using information on DCCs operating in all other constituent cities. In combination, the 10 DCC organizational niches defined in terms of the licensed age range configurations and the six geographic locations constitute a total of 60 different

<sup>6</sup> The six cities making up metropolitan Toronto are: East York, Etobicoke, North York, Scarborough, Toronto, and York. Our approach is similar to other studies that have computed local and diffuse density measures using geographic boundaries such as cities, counties, and states (e.g., Barnett and Carroll 1987; Carroll and Wade 1991; Swaminathan and Wiedenmayer 1991). City boundaries provide a useful basis on which to differentiate DCCs according to their geographic proximity within the metropolitan Toronto area.

local organizational niches. Thus, we can disaggregate overlap density and nonoverlap density such that:

$$\begin{aligned}\text{overlap density} &= \text{local overlap density} + \text{diffuse overlap density}; \\ \text{nonoverlap density} &= \text{local nonoverlap density} \\ &\quad + \text{diffuse nonoverlap density}.\end{aligned}$$

## DATA AND METHOD

### Data Description

We compiled life histories containing information on all licensed DCCs existing in metropolitan Toronto between 1971 and 1989 based on two sources. The Community Information Center of Metropolitan Toronto's (1971–89) *Directory of Day Cares and Nursery Schools in Metropolitan Toronto*, published yearly since 1971, provided detailed annual information on all DCCs in metropolitan Toronto. The Ministry of Community and Social Services' *Day Nurseries Information System*, which contains annual licensing records for all DCCs operating in Ontario since 1979, provided additional information on DCCs and a cross reference to the directory.

Between 1971 and 1989, 682 DCCs were founded. The date of founding was defined as the year in which the original operating license was issued by the ministry or the year of first appearance in the directory. Of the DCCs founded since 1971, 139 had ceased operations by the end of 1989. A DCC was defined to have failed on the first date of closing reported in the ministry archives or in the directory. At the start of 1971, 109 DCCs existed in metropolitan Toronto. The event histories for these DCCs were left-censored. Thirty-nine of these left-censored DCCs had failed by the end of 1989. Through telephone interviews and searches of the Ontario incorporation indexes and local telephone directories, founding dates for all but two of the left-censored DCCs were confirmed. Therefore, the final sample for the analysis contained 789 DCCs, of which 176 failed during the observation period.

Carroll and Hannan (1989) have criticized studies of population dynamics that fail to incorporate data on the early years of a population's history. Therefore, even though we only omitted two of the left-censored DCCs in the analysis, we were still concerned about the extent to which our data censored the early history of DCCs.

When the first DCC in Toronto opened in 1892, day care was viewed by the public as legitimate only as a service for the working poor (Stapleford 1976). During World War II, however, the Canadian federal government established the Dominion-Provincial Wartime Day Nursery

Agreement with provincial governments to provide day care for children whose patriotic mothers accepted employment in essential industries. After the war, the federal government withdrew its support of day care and most mothers left the labor force. The view of day care as a service for the working poor reemerged, and by 1947 the number of full-time DCCs operating in the province of Ontario was 25 (Stapleford 1976). In 1946, the Ontario legislature enacted the Day Nurseries Act, which required DCCs to meet certain standards to obtain an operating license. This act included a provision for the province to pay 50% of the operating cost of DCCs operated by municipalities. During the 20 years from 1947 to 1966, however, the Day Nurseries Act had little influence on the growth of day care in Ontario. In 1966, there were only 122 full-time DCCs in Ontario (Stapleford 1976).

The federal government renewed its financial support of day care in 1966 with the Canada Assistance Plan. In this plan, the federal government agreed to share 50% of day care costs for families in need with the provinces. A concurrent amendment to the Ontario Day Nurseries Act raised the provincial share of operating costs for municipal DCCs to 80%. At the same time, municipal governments made financing available for families in need to purchase services from privately operated DCCs (both nonprofit and for-profit) for their children. Combined, these changes to government legislation and funding provided a major impetus for the creation of new DCCs. However, as the provisions of the Canada Assistance Plan and municipal financial assistance programs indicate, day care continued to be viewed as legitimate primarily as a social service for low-income families. In January 1968, shortly after the inception of the Canada Assistance Plan, amendments to the Day Nurseries Act, and changes to municipal funding provisions, an inventory of child care services in metropolitan Toronto found 66 DCCs (Social Planning Council of Metropolitan Toronto 1968).

During the period for which comprehensive data on the population of DCCs are available, significant changes occurred in the day care environment of metropolitan Toronto. The increased participation of women in the labor force, the family's need for a dual income, and increased rates of divorce and single parenthood all created a demand for accessible day care services. Reflecting these shifts, advocacy groups lobbied vigorously to increase the accessibility of day care services. Besides the increased funding at all government levels for full-time day care services during this period, a portion of child care expenses became deductible from personal income taxes starting in 1972. These changes all contributed to the emergence of DCCs as a legitimate child care option for all families, regardless of income (Maynard 1985).

This brief history suggests that our data cover the most significant

period in the history of DCCs in metropolitan Toronto, including the population's first major growth period and the period during which it began to acquire legitimacy as an organizational form providing a needed service to families at all income levels. During the study period, day care took on a new meaning and DCCs acquired a new status based on legal and social expectations of universal access to child care services, which was increasingly seen as necessary to economic growth (Metropolitan Toronto Day Care Planning Task Force 1986). For these reasons, we think the 1971–89 observation period minimizes the risks associated with a lack of data on a population's early history.

### Independent Variables

The central variables in this study are *overlap density* and *nonoverlap density* and their local and diffuse disaggregations, which were all defined earlier. Values for each of these variables were assigned to individual DCCs based on the organizational niches they occupied at the start of each observation year and their geographic locations.

Although DCCs must be licensed to enroll children in a particular age range legally, there is no regulatory constraint placed on what age ranges DCCs can make application to serve. The DCCs are free to attempt to become licensed in any or all age ranges. To become licensed in a particular age range, a DCC must pass an inspection performed by provincial authorities to ensure that specified licensing criteria are met. Of the 789 DCCs in the population, 277 (35.1%) added an age range and 147 (18.6%) dropped an age range during the observation period. Thus, although change did occur, the average DCC made few, if any, organizational niche changes. These changes to organizational niches resulting from alterations to the ages of the children DCCs were licensed to enroll were incorporated in the overlap and nonoverlap density variables directly by assigning their values on the basis of the organizational niches each DCC occupied at the start of each observation year.

### Control Variables

To rule out plausible alternative explanations, we controlled for the effects of organizational characteristics, population density, and the environmental carrying capacity.

*Organizational characteristics.*—*Organizational age* was defined as the number of years since the year of founding. *Organizational size* was measured for each DCC in each year as the licensed capacity specified in its annual operating license. The licensed capacity sets the maximum number of children that a DCC can legally enroll. The licensed capacity

of a DCC is determined by factors including the number of qualified and unqualified program staff it employed, the size and layout of its physical facilities and playground, and the size of its equipment inventory. To control for the possibility that the mortality rate varied by organizational niche in terms of licensed age ranges, a set of dummy variables was created. For each year of a DCC's existence, the dummy variable corresponding to the particular configuration of age ranges it was licensed to serve was coded "1." All others were coded "0." In the analysis, the dummy variable for the preschool (P) organizational niche was excluded as a comparison group.

*Profit orientation* is an important distinguishing characteristic in the child care sector, because influential institutional constituents and the public in general have been increasingly opposed to for-profit child care in metropolitan Toronto and elsewhere in Canada (Baum and Oliver 1991; Maynard 1985). Nonprofit DCCs are viewed as social service organizations that pursue the laudable goal of providing a needed service to local communities without regard to profitability, while for-profit DCCs are regarded as businesses in pursuit of profit at the expense of their employees and the children they serve. To control for the effect of profit orientation, we created a dummy variable that was coded "1" for non-profit DCCs and "0" for profit-oriented DCCs.

Several studies have shown that an organization's linkages to the institutional environment can reduce failure rates by conferring legitimacy and more specific resources on organizations (Baum and Oliver 1991; Miner, Amburgey, and Stearns 1990; Singh, House, and Tucker 1986). Therefore, we controlled for the effects of two institutional linkages. A *purchase of service agreement* (POSA) links a DCC to the Metropolitan Toronto Children's Services Division (CSD). Through these linkages, the CSD provides subsidized care for the children of city residents who qualify for financial assistance. When a DCC is granted a POSA, parents receiving assistance from the CSD may purchase its services. In addition to access to subsidized client fees, a DCC with a POSA gains legitimacy as a result of the public's belief that, because they must satisfy stringent requirements to establish a POSA (unannounced, full-day, on-site inspections up to three times each year), DCCs with POSAs will provide reliable, high-quality care.

The second linkage, a *site sharing arrangement* (SSA), involves the permission to operate in space leased from or provided by established community-based institutions, including community centers, schools, and religious organizations. These SSAs can provide DCCs with enhanced legitimacy resulting from the visible association with legitimated institutions. The host institution also may provide access to a stable demand for services, direct resource transfers, and reductions in over-

head costs. The effects of POSAs and SSAs were controlled with two dummy variables coded "1" for DCCs with POSAs or SSAs, respectively, and "0" otherwise.

Finally, to examine if the *left-censored DCCs* had systematically different mortality rates, a dummy variable coded "1" for DCCs founded prior to 1971, and "0" otherwise, was included in the analysis.

*Population density.*—We defined *population density* as the total number of DCCs existing in metropolitan Toronto at the start of each observation year. The values for the population density of DCCs are given in the last column of table 3. To allow for a nonmonotonic effect (Hannan and Freeman 1989), population density was modeled as a quadratic function by including both population density and population density squared, with the squared term divided by 1,000 for rescaling. As described earlier, we also distinguished between the local and diffuse effects of population density by calculating separate population density measures according to geographic proximity within metropolitan Toronto. We also modeled quadratic specifications for local (with the squared term divided by 100 for rescaling) and diffuse (with the squared term divided by 1,000 for rescaling) population densities.

*Environmental variables.*—As the size of an organizational population approaches its carrying capacity, competitive pressure increases. If the environmental carrying capacity is not measured explicitly, then the competitive effect of adding an organization to the population is assumed to be constant over time. Of course, this is incorrect. The competitive effect of adding an organization to the population depends on the environmental carrying capacity at the time the organization is added. Therefore, it is crucial to our test of hypotheses 1 and 2 that estimates of the carrying capacity of the DCC environment are included in our models. We estimated the carrying capacity of the DCC environment using the following four variables.

The first variable is the *demand for DCC services*. As described earlier, during the study period, the increased need for two incomes to maintain the family economically, the movement of women into the workforce, and increased incidence of single parenthood meant that women were increasingly likely to be required to work, to think in terms of lifelong employment, or to be eager to maintain valued careers by returning to work shortly after having a child (Maynard 1985). In addition, for the first time, in metropolitan Toronto and elsewhere, DCCs became a legitimate way to provide care for the children of all families, regardless of income (Maynard 1985). In combination, these trends resulted in an increasing demand for day care services. For example, Rose-Ackerman (1988) found that the number of children in single parent households and the percentage of women working outside the home significantly in-

creased the demand for day care in the United States. We estimated the yearly demand in age range  $i$  in location  $j$  using the following equation:

$$\text{demand}_{ij} = EN_{ij} + \%WW(NC_{ij} - EN_{ij}) \\ + \%SP [(NC_{ij} - EN_{ij})(1 - \%WW)],$$

where  $\text{demand}_{ij}$  is the estimated annual demand for DCC services in age range  $i$  in location  $j$ ,  $EN_{ij}$  is the number of children in age range  $i$  in location  $j$  that are enrolled in a DCC,  $\%WW$  is the percentage of women residing in metropolitan Toronto who work outside the home full-time,  $NC_{ij}$  is the total number of children in age range  $i$  in location  $j$ , and  $\%SP$  is the percentage of children from birth to 10 years of age in metropolitan Toronto that reside in single parent households.<sup>7</sup>

In this equation, the estimated demand for DCCs comprises three additive components: the number of children who are enrolled in DCCs, the number of children with working mothers who are not enrolled in DCCs, and the number of children who live in single parent households and are not enrolled in DCCs. We estimated the third component after factoring out the estimated number of children with mothers working outside the home who are not enrolled in DCCs, since most single parents in metropolitan Toronto are working women (Social Planning Council of Metropolitan Toronto 1981; City of Toronto Planning and Development Department 1983). Thus, the effect of the demand equation is to weight the number of children (of particular ages and in particular geographic locations) by factors (i.e., the percentages of working women and single parents) related to the likelihood that the children will require day care services.

The yearly estimates for each age range in each geographic location were used to construct measures of total, local, and diffuse organizational niche demand for DCCs in each organizational niche and geographic location. We generally expect negative relationships between local and diffuse organizational niche demand and the failure rate. However, our earlier discussion of the localized demand for DCC services suggests that this relationship may be stronger at local levels.

The second environmental control variable was the *interest rate for small business loans*. Staff salaries account for approximately 85% of the

<sup>7</sup> While longitudinal data on working women and single parents were unavailable for each constituent city, census data (Social Planning Council of Metropolitan Toronto 1981) indicate that the variance on these measures within metropolitan Toronto was not large. In 1981, the number of single parent families with children from birth to five years of age ranged from a low of 9.8% in East York to a high of 13.1% in Toronto. In the same year, the number of women in the workforce on a full-time basis ranged from a low of 58.1% in York to a high of 61.5% in Scarborough.

average DCC's operating costs (Maynard 1985). Consequently, DCCs are sensitive to revenue and cost variation and vulnerable to increases in interest rates on short-term loans to cover cash-flow shortages and unexpected costs including increased salaries and facility and equipment repair. The third variable was the value of the *Children's Services Division budget* in constant dollars. This budget amount measures the level of government resources provided to parents in need for purchasing services from DCCs with POSAs. The number of *early childhood education graduates* from Ontario community colleges was the final control variable. These graduates represent the pool of new labor that meets the staff qualification requirements of the Day Nurseries Act. The number of new graduates affects the ability of DCCs to recruit qualified staff members and may affect the salary required to attract and retain qualified staff members.

### Analysis

The DCC failure rate was estimated using the hazard rate,  $h(t)$ , the instantaneous rate of failure, as the dependent variable. The hazard rate of a DCC failing is defined as follows:

$$h(t) = \lim_{\Delta t \rightarrow 0} \frac{\text{prob}(t, t + \Delta t|t)}{\Delta t}, \quad (3)$$

where  $\text{prob}(t, t + \Delta t|t)$  is the probability of failure in the interval  $(t, t + \Delta t)$  given the DCC was still alive at time  $t$ .

We estimated the hazard rate using the following specification:

$$h_{jk}(t) = \exp[b_{jk}X(t)], \quad (4)$$

where  $h_{jk}$  is the instantaneous rate of transition from state  $j$  (alive) to state  $k$  (failed),  $X(t)$  is a vector of covariate values at time  $t$ , and  $b_{jk}$  is a vector of parameter estimates. In this model, transition rates are postulated to be log-linear functions of the variable  $X$ . We used a multiple-spells formulation of this model to permit the incorporation of time variation in the covariates. In the multiple-spells formulation each DCC's event history is broken down into yearly observations in which the DCC is at risk of failure. Each of these spells is treated as right-censored unless the DCC fails. RATE (Tuma 1980) was used to estimate the vector of parameter estimates  $b_{jk}$  by the method of maximum likelihood.

### RESULTS

Tables 5 and 6 report the maximum-likelihood estimates for the analysis of DCC failure rates. Whereas table 5 disaggregates total density into



TABLE 5  
ORGANIZATIONAL NICHE OVERLAP AND DCC FAILURE (METROPOLITAN TORONTO  
LEVEL OF ANALYSIS)

Independent Variables	Model 1	Model 2
Constant .....	.454 (1.400)	-.064 (1.395)
Organizational age (years) .....	.030* (.017)	.030* (.017)
ln(organizational size) .....	-.900* (.147)	-.894* (.147)
Nonprofit orientation .....	-.353* (.198)	-.357* (.198)
Purchase of service agreement (POSA) .....	-.340* (.173)	-.339* (.173)
Site sharing arrangement (SSA) .....	-1.023* (.187)	-1.023* (.187)
Left-censored .....	-.214 (.302)	-.213 (.301)
Small business loan interest rate .....	.071 (.051)	.096* (.040)
Children's Services Division budget/100,000 .....	-.095* (.035)	-.086* (.033)
Early childhood education graduates/100 .....	-.231 (.224)	-.096 (.143)
Organizational niche demand/1,000 .....	-.046* (.016)	-.053* (.021)
DCC density .....	-.015* (.008)	
DCC density <sup>2</sup> /1,000 .....	.017* (.009)	
Overlap density .....		.006* (.0037)
Nonoverlap density .....		-.010* (.004)
$\chi^2$ .....	159.67	160.96
df .....	21	21

NOTE —Nos. in parentheses are SEs. The sample contained 6,626 annual spells and 176 failures.

\*  $P < .05$ .

overlap and nonoverlap density based on the age ranges served by DCCs, table 6 also incorporates the further disaggregation of densities into local and diffuse components. In other words, table 5 gives results at the metropolitan Toronto level of analysis, while table 6 breaks them down by constituent cities. For convenience, the estimates for the organizational niche dummy variables are reported separately for all models in the appendix.

TABLE 6  
ORGANIZATIONAL NICHE OVERLAP AND DCC FAILURE  
(WITH LOCAL/DIFFUSE DISAGGREGATION)

Independent Variables	Model 3	Model 4	Model 5
Constant .....	2.908 (1.875)	2.479 (1.688)	2.449 (1.676)
Organizational age (years) .....	.034* (.017)	.034* (.017)	.033* (.017)
ln(organizational size) .....	-.913* (.149)	-.901* (.148)	-.860* (.150)
Nonprofit orientation .....	-.318 (.200)	-.331* (.199)	-.373* (.200)
Purchase of service agreement (POSA) .....	-.355* (.174)	-.342* (.174)	-.360* (.174)
Site sharing arrangement (SSA) .....	-1.066* (.189)	-1.058* (.189)	-1.054* (.189)
Left-censored .....	-.303 (.303)	-.311 (.301)	-.293 (.302)
Small business loan interest rate .....	.080* (.047)	.093* (.041)	.090* (.041)
Children's Services Division budget/100,000 .....	-.087* (.035)	-.084* (.034)	-.081* (.034)
Early childhood education graduates/100 .....	-.176 (.192)	-.113 (.144)	-.119 (.144)
Diffuse organizational niche demand/1,000 .....	-.034* (.020)	-.031* (.018)	-.039* (.019)
Local organizational niche demand/1,000 .....	-.069* (.029)	-.056* (.025)	-.059* (.026)
Diffuse DCC density .....	-.007 (.007)	-.008* (.004)	
Diffuse DCC density <sup>2</sup> /1,000 .....	-.012 (.009)		
Local DCC density .....	.011 (.009)	.007* (.004)	
Local DCC density <sup>2</sup> /100 .....	.004 (.003)		
Diffuse overlap density .....			.009* (.004)
Local overlap density .....			.019* (.005)
Diffuse nonoverlap density .....			-.009* (.004)
Local nonoverlap density .....			-.017* (.007)
$\chi^2$ .....	165.24	163.99	170.43
df .....	24	22	24

NOTE.—Nos. in parentheses are SEs. The sample contained 6,626 annual spells and 176 failures.  
\*  $P < .05$ .

Model 1 in table 5 provides a baseline model of density dependence in DCC failure rates that includes organizational characteristics, institutional linkages, and the environmental measures. The significant negative DCC density and positive DCC density squared estimates support the U-shaped relationship predicted by the density dependence model (Hannan and Freeman 1989). The effect of initial increases in DCC density was mutualistic and lowered the failure rate. However, further increases had a competitive effect and increased the failure rate.<sup>8</sup> Model 2 disaggregates population density into overlap and nonoverlap densities. Consistent with our hypotheses, overlap density significantly raises the failure rate and nonoverlap density has significant negative effects on the failure rate.<sup>9</sup> Separately, we also examined the possibility of curvilinear effects, but the second-order terms were not significant. Including second-order effects also did not improve the fit of the model significantly ( $\Delta\chi^2 = 1.96$ ;  $df = 2$ , NS). Thus, the second-order effects do not improve predictions over the monotonic specifications of these variables.

Table 6 disaggregates densities into local and diffuse components. In model 3, which includes quadratic specifications for local and diffuse DCC density, estimates for all density terms are insignificant. With both squared terms removed in model 4, the fit of the model is not significantly reduced ( $\Delta\chi^2 = 1.25$ ;  $df = 2$ , NS). In model 4, diffuse DCC density is significant and negative, indicating that increases in the number of DCCs in other cities had a mutualistic effect on the failure rate. In contrast, the estimate for local DCC density is significant and positive, indicating that increases in the number of neighboring DCCs had a competitive effect.

The effects of local and diffuse overlap density and nonoverlap density are estimated in model 5. The coefficient estimates for local and diffuse

<sup>8</sup> To examine whether the effects of population density were simply the result of the passage of time, for all models, we estimated equations that included a time-trend variable. The coefficients for this variable are insignificant in all models, and the inclusion of the time-trend variable does not improve the overall significance of any of the models.

<sup>9</sup> In a supplementary analysis not reported here, we examined two further disaggregations of overlap and nonoverlap density. First, we disaggregated overlap density into complete overlap density and partial overlap density to compare the effects of DCCs in the same organizational niche with those in partly overlapped organizational niches. Second, we disaggregated nonoverlap density into zero overlap density and partial nonoverlap density to compare the effects of DCCs in organizational niches with no overlaps with those in partly nonoverlapped organizational niches. We found that both components of overlap density had significant positive effects on the DCC failure rate and both components of nonoverlap density had significant negative effects. A further geographic disaggregation gave broadly parallel results. The full results of this analysis are available from the authors.

nonoverlap density are significant and negative, indicating that increases in the effective number of DCCs with nonoverlapping organizational niches, both locally and nonlocally, had mutualistic effects that lowered the failure rate. The estimates for local and diffuse overlap density are both significant and positive, in other words, competitive. The significant local and diffuse effects of overlap density suggest that competition among DCCs entailed both localized competition for clients in specific geographic arenas and diffuse competition for client-specific resources that are not tied to particular locations, including, for example, skilled labor and municipal government subsidies. The significant local and diffuse effects for nonoverlap density suggest that mutualism among DCCs may have involved direct cooperation and complementary demand enhancement at the local level in addition to more diffuse mutualistic effects of legitimation and institutional embeddedness at the population level. Notably, the relative sizes of the local and diffuse parameter estimates for overlap density and nonoverlap density indicate that the effects of competition and mutualism were both stronger at the local level in the DCCs population. These results are consistent with hypotheses 1 and 2 and our expectations regarding local and diffuse effects.

Several control variables also significantly influenced DCC failure rates. The estimates for organizational age indicate that the DCC failure rate increased with age. Although this may appear to contradict the liability-of-newness research, it must be remembered that these models are specified in great detail. Without such detailed specifications, separate analyses do show a negative age dependence of failure rates. However, consistent with prior research, the failure rate did exhibit negative size dependence. The estimates also indicate that nonprofit DCCs and DCCs with POSAs and SSAs had significantly lower failure rates. The estimate for the left-censored dummy variable is not significant. Thus, although DCCs founded prior to the observation period were already "survivors," they did not exhibit a significant survival advantage.<sup>10</sup> The estimates for the environmental measures indicate that larger Children's Services Division budgets and higher levels of organizational niche demand were associated with significant reductions in the failure rate. Lastly, the estimates for the organizational niche dummy variables (see the appendix) indicated that, compared to DCCs in the P organizational niche, DCCs

<sup>10</sup> Since the left-censored dummy variable captures only the main effect of being founded before 1971, we examined whether this difference affected parameters other than the constant term. To do this, we reestimated the models after excluding the left-censored DCCs from the database. In the reanalysis, the main findings are unchanged, even stronger. These results are available from the authors.

in the S, PS, ITP, and ITPS organizational niches had significantly higher failure rates.

## DISCUSSION

Understanding the influence of organizational variation on patterns of competition and mutualism in organizational populations is a question central to an ecological approach, because variation in the adaptive capacities of organizations within a population forms the basis for selection processes and population-level change. In this study we attempted to build on the growing empirical attention to the relationship between organizational differences and population dynamics by systematically examining the effects of overlap density and nonoverlap density on failure rates in a population of day care centers. The findings of this study demonstrate some of the promise of an ecological approach to population dynamics that incorporates differences among individual organizations.

At the population level, the results of this study support existing theory, which predicts curvilinear relationships between population density and failure rates (Hannan and Carroll 1992; Hannan and Freeman 1989). However, disaggregation of population density into overlap density and nonoverlap density revealed patterns of competition and mutualism within the population that differed depending on the organizational niche occupied by a population member. Whereas overlap density increased mortality rates, nonoverlap density lowered mortality rates. A disaggregation of overlap and nonoverlap densities into their local and diffuse components yielded similar results. Results also indicated that competition and mutualism were stronger among members of the DCC population located in the same city. These patterns of competition and mutualism were consistent with the predictions from our theoretical approach.

These findings suggest that overlap density captures the competitive aspect of interdependence among DCCs. The mutualistic effects of nonoverlap density are generally consistent with earlier theorizing suggesting that differentiation can lead to the emergence of mutualistic interdependencies between organizations (Astley 1985; Barnett 1990; Fombrun 1986; Hawley 1950). For example, increases in the number of population members with differentiated organizational niches can lead to the emergence of an organizational system comprising organizations that work together because they are different in complementary ways. Such mutualistic relations may be the result of differentiated DCCs cooperating directly by referring potential customers to each other. They may also be the result of complementary functional differences creating sequential interdependencies among neighboring DCCs serving children of different

ages, in other words, DCCs in the I organizational niche generate future demand for DCCs in the T organizational niche and so on. In addition, increases in the number of differentiated DCCs may have resulted in more indirect forms of mutualism by contributing to the institutional standing of the population, for example, by legitimating DCCs as an acceptable way to provide collective daylong care to children (Hannan and Carroll 1992; Hannan and Freeman 1989) or by embedding the DCC population within the institutional environment (Baum and Oliver 1992).

This study has some limitations. First, the organizational niches of DCCs were characterized on a single key dimension. Yet, we think the importance of this dimension to DCCs and the strong empirical results suggest that the licensed age ranges of children provides a simple but powerful description of DCC organizational niches. However, a useful avenue for future research would be to study a more multidimensional niche concept.

Second, data limitations did not permit us to incorporate organizational size into our models as other recent research has done (see, e.g., Barnett and Amburgey 1990). While the data archives contained information on the licensed capacity of each DCC, there was no information on the licensed capacity in each age range. However, because the size distribution of the DCC population is not highly skewed, we think calculating measures of overlap density based on the number of organizations provides a good proxy for competitive pressure (Winter 1990). Nevertheless, future research that accounts for differences in organizational size in measures of overlap and nonoverlap density would extend the organizational niche overlap approach in a significant way.

Third, one may raise the question of the generalizability of our organizational niche characterization. Although the particular operationalization of the organizational niche concept for DCCs in terms of the licensed age ranges of children may not itself be broadly generalizable, we think that the concept of the organizational niche may find fruitful applications in other populations. Moreover, while the existence of government licensing regulations undoubtedly facilitated our operationalization by providing a convenient institutional measure of the productive capacities and resource requirements of DCCs and by making it easier to obtain data, we do not view such regulation as a central feature of the approach. We think the general approach should work in relatively unregulated settings as well.

What is required to operationalize the approach is information on variation in the productive capacities and resource requirements among the members of an organizational population. For example, one might study organizational niche overlap among savings and loans associations (S&Ls), where organizational niches can be measured in terms of the

product markets S&Ls have the capacity to serve, or among hospitals, where organizational niches can be measured, similarly, in terms of the diagnostic related groups hospitals have the capacity to serve. Even when such data are available, however, it may not always be easy to determine appropriate organizational niche overlap weights. In such cases, an intermediate approach based on a count of overlapped, nonoverlapped, and partially overlapped organizations could be implemented. While this approach will generally be easier to implement, measures based on counts do not possess some substantive properties of the weighted measures, such as the asymmetric competitive relationships between members of different organizational niches. Alternatively, the approach used in the study of Manhattan hotels by Baum and Mezias (1992), which measures the proximity of organizational niches in terms of euclidean distances in organizational size, price, and geographic location, also builds on these intuitions.

In a companion study (Baum and Singh 1994) we have examined the effects of overlap and nonoverlap density on organizational founding rates in the DCC population.<sup>11</sup> The strong pattern of results in this study supports the characterization of organizational niches advanced here. Overall, our results are consistent with the predictions from density dependence theory at the population level in both studies, but a more fine-grained structure of competition and mutualism reveals itself within the population. Organizational transformation is another process through which coexistence with competitors can be facilitated (Delacroix et al. 1989; Hawley 1950). Consequently, in recent work (Baum and Singh 1993), we have examined whether change is used by DCCs as a response to the problem of organizational niche overlap (e.g., DCCs become licensed to enroll children in a different age range to enhance organizational niche complementarity and avoid direct competition with neighboring DCCs). We also examined what (if any) systematic consequences there are from such responses to competition for the long-term survival of DCCs.

The results of these studies of the dynamics of founding, mortality, and change in the DCC population demonstrate the usefulness of examining the intrapopulation organizational niche structure in understanding the dynamics of competition and mutualism in organizational populations. We think incorporation of systematic organizational differences into ecological models of population dynamics can enable a productive dialogue with researchers with stronger interests at the organizational level. For example, firm and industry in the strategic management litera-

<sup>11</sup> Using a variant of the disaggregation approach employed here, Baum and Mezias (1993) also found comparable effects of overlap density on DCC growth.

ture have clear analogs with organization and population in ecological research (Boeker 1991). Strategic management research on competition and organizational strategy thus can inform ecological models that incorporate organization-level variation. By the same token, an ecological approach that addresses both organization and population levels can inform research in strategic management by providing a model of the effects of organizational strategies in dynamic populations. One particularly interesting potential point of contact is with the literature on strategic groups (McGee and Thomas 1986; Thomas and Venkatraman 1988). While the strategic groups construct captures the idea that the impact of competition on an organization's performance depends on the location of its various rivals in the competitive environment, empirical research examining the effects of strategic groups on competition is limited (Barnett 1993; Cool and Dierickx 1993). Our approach, which emphasizes the resource overlaps and nonoverlaps among multiple organizational niches within populations, provides a way to operationalize competition within and between the multiple strategic groups that make up an industry.

There are both points of convergence and divergence between our approach and the density dependence model. On the one hand, if a population is composed of one organizational niche (and all organizational niche overlap weights are unity), there are broad similarities between the two approaches. On the other hand, the views of competition and mutualism taken here are somewhat different. Our approach focuses more on direct competition for underlying resources among organizations instead of indirect competition. Also, mutualism is seen as arising from the facilitative effects of complementary organizations with nonoverlapping resource requirements as well as from processes of legitimation of organizational forms themselves. Furthermore, in our approach the strengths of both competition and mutualism for a specific organization vary depending on the locations of organizational niches in a resource space. By incorporating these intrapopulation locations of organizational niches, we think our approach broadens and elaborates the density dependence model. If generalized in studies of other populations, the disaggregation of population density into overlap and nonoverlap density may also shed some light on past debates over the role of heterogeneity in interpretations of the nonmonotonic density dependence findings (Carroll and Hannan 1989; Petersen and Koput 1991; Zucker 1989).



## APPENDIX

TABLE A1

ORGANIZATIONAL NICHE DUMMY VARIABLE ESTIMATES FOR DCC FAILURE

INDEPENDENT VARIABLES	MODEL				
	1	2	3	4	5
I .....	-9.400 (107.6)	-7.376 (64.90)	-1.161 (106.5)	-1.014 (64.17)	-8.922 (64.02)
T .....	.483 (1.113)	1.346 (1.446)	-1.801 (1.290)	-1.434 (1.366)	-.146 (1.483)
P .....	...	...	...	...	...
S .....	1.032* (.233)	1.490* (.536)	1.217* (.239)	1.172* (.239)	1.870* (.567)
IT .....	-.389 (.509)	.474 (1.023)	-1.951* (.677)	-1.674* (.736)	-.481 (1.003)
TP .....	-.941* (.541)	-.733 (.589)	-.239 (.580)	-.386 (.592)	-.064 (.654)
PS .....	-.163 (.687)	.132 (.763)	3.015* (1.138)	2.391* (1.287)	2.935* (1.323)
ITP .....	-.238 (.493)	.238 (.711)	1.153* (.632)	.898 (.688)	1.598* (.914)
TPS .....	-1.310 (1.299)	-.933 (1.364)	2.466 (1.667)	1.713 (1.816)	2.368 (1.856)
ITPS .....	-.381 (1.226)	.038 (1.317)	4.130* (1.751)	3.179* (1.961)	3.915* (2.001)

NOTE.—Nos. in parentheses are SEs. Model numbers refer to the models in tables 5 and 6. The preschool (P) organizational niche is excluded as comparison group. The sample contained 6,626 annual spells and 176 failures.

\*  $P < .05$ .

## REFERENCES

- Astley, W. Graham. 1985. "The Two Ecologies: Population and Community Perspectives on Organizational Evolution." *Administrative Science Quarterly* 30:224-41.
- Banaszak-Holl, Jane. 1992. "Historical Trends in Rates of Manhattan Bank Mergers, Acquisitions, and Failures." Working paper. Brown University, Center for Health Care Research.
- Barnett, William P. 1990. "The Organizational Ecology of a Technological System." *Administrative Science Quarterly* 35:31-60.
- . 1993. "Strategic Deterrence among Multipoint Competitors." *Industrial and Corporate Change* 2:249-78.
- Barnett, William P., and Terry L. Amburgey. 1990. "Do Larger Organizations Generate Stronger Competition?" Pp. 78-102 in *Organizational Evolution: New Directions*, edited by Jitendra V. Singh. Newbury Park, Calif.: Sage.
- Barnett, William P., and Glenn R. Carroll. 1987. "Competition and Mutualism among Early Telephone Companies." *Administrative Science Quarterly* 32:400-21.

- Baum, Joel A. C., and Stephen J. Mezias. 1992. "Localized Competition and Organizational Failure in the Manhattan Hotel Industry, 1898–1990." *Administrative Science Quarterly* 37:580–604.
- . 1993. "Competition, Institutional Linkages, and Organizational Growth." *Social Science Research* 22:131–64.
- Baum, Joel A. C., and Christine Oliver. 1991. "Institutional Linkages and Organizational Mortality." *Administrative Science Quarterly* 36:187–218.
- . 1992. "Institutional Embeddedness and the Dynamics of Organizational Populations." *American Sociological Review* 57:540–59.
- Baum, Joel A. C., and Jitendra V. Singh. 1993. "Dynamics of Organizational Responses to Competition." Presented at the Strategic Management Society's 13th annual conference, Chicago.
- Baum, Joel A. C., and Jitendra V. Singh. 1994. "Organizational Niche Overlap and the Dynamics of Organizational Founding." *Organization Science*. In press.
- Boeker, Warren. 1991. "Organizational Strategy: An Ecological Approach." *Academy of Management Journal* 34:613–35.
- Carroll, Glenn R. 1985. "Concentration and Specialization: Dynamics of Niche Width in Populations of Organizations." *American Journal of Sociology* 90:1262–83.
- Carroll, Glenn R., and Michael T. Hannan. 1989. "Density Dependence in the Evolution of Populations in Newspaper Organizations." *American Sociological Review* 54:524–41.
- Carroll, Glenn R., and James B. Wade. 1991. "Density Dependence in the Evolution of the American Brewing Industry across Different Levels of Analysis." *Social Science Research* 20:271–302.
- City of Toronto Planning and Development Department. 1983. "Social Change in Toronto: A Context for Human Services Planning." Toronto: City of Toronto Planning and Development Department.
- Community Information Center of Metropolitan Toronto. 1971–89. *Directory of Day Care Centers and Nursery Schools in Metropolitan Toronto*. Toronto: Community Information Center of Metropolitan Toronto.
- Cool, Karel, and Ingemar Dierickx. 1995. "Rivalry, Strategic Groups and Firm Profitability." *Strategic Management Journal* 14:47–59.
- Delacroix, Jacques, Anand Swaminathan, and Michael E. Solt. 1989. "Density Dependence versus Population Dynamics: An Ecological Study of Failings in the California Wine Industry." *American Sociological Review* 54:245–62.
- Fombrun, Charles J. 1986. "Structural Dynamics within and between Organizations." *Administrative Science Quarterly* 31:403–21.
- Hannan, Michael T. 1986. "A Model of Competitive and Institutional Processes in Organizational Ecology." Technical Report 86–13. Cornell University, Department of Sociology.
- Hannan, Michael T., and Glenn R. Carroll. 1992. *Dynamics of Organizational Populations: Density, Competition, and Legitimation*. New York: Oxford University Press.
- Hannan, Michael T., and John H. Freeman. 1977. "The Population Ecology of Organizations." *American Journal of Sociology* 83:929–84.
- . 1989. *Organizational Ecology*. Cambridge, Mass.: Harvard University Press.
- Hannan, Michael T., James Ranger-Moore, and Jane Banaszak-Holl. 1990. "Competition and the Evolution of Organizational Size Distributions." Pp. 246–68 in *Organizational Evolution: New Directions*, edited by Jitendra V. Singh. Newbury Park, Calif.: Sage.
- Hawley, Amos H. 1950. *Human Ecology: A Theory of Community Structure*. New York: Ronald.
- Hutchinson, G. Evelyn. 1978. *An Introduction to Population Ecology*. New Haven, Conn.: Yale University Press.

- Levins, Richard. 1968. *Evolution in Changing Environments*. Princeton, N.J.: Princeton University Press.
- Maynard, Fredelle B. 1985. *The Child Care Crisis*. Toronto: Viking.
- McGee, John, and Howard Thomas. 1986. "Strategic Groups: Theory, Research, and Taxonomy." *Strategic Management Journal* 7:141-60.
- McKelvey, Bill. 1982. *Organizational Systematics*. Berkeley and Los Angeles: University of California Press.
- McPherson, J. Miller. 1983. "An Ecology of Affiliation." *American Sociological Review* 48:519-32.
- . 1990. "Evolution in Communities of Voluntary Organizations." Pp. 224-45 in *Organizational Evolution: New Directions*, edited by Jitendra V. Singh. Newbury Park, Calif.: Sage.
- Metropolitan Toronto Day Care Planning Task Force. 1986. "Blueprint for Child Care Services: Realistic Responses to the Need." Toronto: Metropolitan Toronto Day Care Planning Task Force.
- Meyer, John W., and W. Richard Scott, eds. 1992. *Organizational Environments: Ritual and Rationality*, 2d ed. Newbury Park, Calif.: Sage.
- Miner, Anne S., Terry L. Amburgey, and Timothy Stearns. 1990. "Interorganizational Linkages and Population Dynamics: Buffering and Transformational Shields." *Administrative Science Quarterly* 35:689-713.
- Petersen, Trond, and Kenneth W. Koput. 1991. "Density Dependence in Organizational Mortality: Legitimacy or Unobserved Heterogeneity." *American Sociological Review* 56:399-409.
- Powell, Walter W., and Paul J. DiMaggio, eds. 1991. *The New Institutionalism in Organizational Analysis*. Chicago: University of Chicago Press.
- Rose-Ackerman, Susan. 1988. "The Market for Loving Kindness: Day Care Centers and the Demand for Child Care." Pp. 170-82 in *Community Organizations: Studies in Resource Mobilization and Exchange*, edited by C. Milofsky. New York: Oxford University Press.
- Singh, Jitendra V., ed. 1990. *Organizational Evolution: New Directions*. Newbury Park, Calif.: Sage.
- . 1993. "Density Dependence Theory—Current Issues, Future Promise." Review Essay on *Dynamics of Organizational Populations* by Michael T. Hannan and Glenn R. Carroll. *American Journal of Sociology* 99:464-73.
- Singh, Jitendra V., Robert J. House, and David J. Tucker. 1986. "Organizational Legitimacy and the Liability of Newness." *Administrative Science Quarterly* 31: 171-93.
- Singh, Jitendra V., and Charles J. Lumsden. 1990. "Theory and Research in Organizational Ecology." *Annual Review of Sociology* 16:161-95.
- Social Planning Council of Metropolitan Toronto. 1968. "Day Care in Metropolitan Toronto." Toronto: Social Planning Council of Metropolitan Toronto.
- . 1981. *Metropolitan Social Profile: Guide to Social Planning Facts in Metropolitan Toronto*, vol. 1. Toronto: Social Planning Council of Metropolitan Toronto.
- Stapleford, Elsie M. 1976. *History of the Day Nurseries Branch*. Toronto: Ministry of Community and Social Services.
- Swaminathan, Anand, and Jacques Delacroix. 1991. "Differentiation within an Organizational Population: Additional Evidence from the Wine Industry." *Academy of Management Journal* 34:679-92.
- Swaminathan, Anand, and Gabriele Wiedenmayer. 1991. "Does the Pattern of Density Dependence in Organizational Mortality Rates Vary across Levels of Analysis? Evidence from the German Brewing Industry." *Social Science Research* 20:45-73.
- Thomas, Howard, and N. Venkatraman. 1988. "Research on Strategic Groups: Progress and Prognosis." *Journal of Management Studies* 25:537-55.
- Tuma, Nancy B. 1980. *Invoking RATE*, 2d ed. Menlo Park, Calif.: SRI International.

- Ulrich, David, and Bill McKelvey. 1990. "General Organizational Classification: An Empirical Test Using the United States and Japanese Electronics Industries." *Organization Science* 1:99–118.
- Wholey, Douglas R., Jon B. Christianson, and Susan M. Sanchez. 1992. "Organization Size and Failure among Health Maintenance Organizations." *American Sociological Review* 57:829–42.
- Winter, Sidney G. 1990. "Survival, Selection, and Inheritance in Evolutionary Theories of Organization." Pp. 269–97 in *Organizational Evolution: New Directions*, edited by Jitendra V. Singh. Newbury Park, Calif.: Sage.
- Zucker, Lynne G., ed. 1988. *Institutional Patterns and Organizations: Culture and Environment*. Cambridge, Mass.: Ballinger.
- . 1989. "Combining Institutional Theory and Population Ecology: No Legitimacy, No History." *American Sociological Review* 54:542–45.

# **A Time to Grow and a Time to Die: Growth and Mortality of Credit Unions in New York City, 1914–1990<sup>1</sup>**

David N. Barron and Elizabeth West  
*McGill University*

Michael T. Hannan  
*Stanford University*

One vision of organizational evolution suggests that old and large organizations become increasingly dominant over their environment. A second suggests that as organizations age they become less able to respond to new challenges. In this article the authors investigate which of these visions best characterizes the evolution of state-chartered credit unions in New York City from 1914 through 1990 by analyzing the effects of organizational age, size, and population density on rates of organizational failure and growth. The authors find evidence that old and small institutions are more likely to fail, while young and small organizations have the highest growth rates.

Economic history reveals a powerful tendency for markets and industrial sectors to become concentrated over time. Large, powerful organizations have dominated many important industries and the behavior of related markets—their horizontal and vertical connections to suppliers, distributors, and customers. Conventional economic wisdom holds that this tendency toward oligopoly and monopoly poses potential social and economic problems, as it increases the opportunity for collusion among a few key organizations in a market. Such powerful actors, untrammelled by legislation or regulation, might use strategic action designed to mini-

<sup>1</sup> The research reported here was supported by the Center for Credit Union Research, National Science Foundation grants SES-9123708 and SES-9247842, Fonds pour la Formation de Chercheurs et l'Aide à la Recherche, the Faculty of Graduate Studies and Research, McGill University, and the Graduate School of Business, Stanford University. Howard Aldrich, Bill Barnett, Jim Baron, Glenn Carroll, John Meyer, Susan Olzak, Jesper Sørensen, and the members of the Organizational Ecology Workshop at Stanford made helpful comments on an earlier draft. We also appreciated the constructive advice of two *AJS* reviewers. Please direct all correspondence to David Barron, Department of Sociology, McGill University, 855 Sherbrooke Street West, Montreal, Quebec, Canada H3A 2T7.

mize competition, for example, by colluding to fix prices or to prevent other organizations from entering the market. Sociologists also argue that increasing industrial concentration enables an elite class of entrepreneurs to dominate social and economic life by controlling a few major corporations (Mills 1956; Useem 1984; Mintz and Schwartz 1985). This vision of the organizational world suggests that large organizations have major advantages over smaller rivals, because they can conspire with partners and exercise both economic and political power. Olson (1982) has gone so far as to suggest that the gradual development and institutionalization of interest groups, interlocking directorates, oligopolies, and so on eventually leads to the decline of a national economy in the face of challenges from more dynamic foreign competition.

An alternative picture of the organizational world also has widespread support, however. Taking a lead from Schumpeter's (1947) thesis of "creative destruction," some scholars suggest that the vulnerability of organizations to competition from newcomers to the market increases with age. There is a widespread belief that older (usually larger) organizations become ossified, finding it ever more difficult to make and carry out decisions in a timely manner. From this perspective, old age and large size are equated with a loss of agility and responsiveness, so that, with aging, more market opportunities are missed and fewer pitfalls and dangers of the market are avoided—with predictable consequences for the life chances of the organization. If older and larger organizations cannot react quickly to challenges from innovative organizations, then we should see a constant turnover in the organizations occupying the role of market leader, even though the structure of the market might remain the same.

These two visions of how the organizational world functions suggest very different dynamic patterns within organizational populations. The first vision suggests stability, with the same powerful organizations dominating the scene over many years. The alternative view is more consistent with change, as large (presumably elderly) organizations finally become obsolete and succumb to the challenge of new, innovative competitors. Which of these visions comes closer to reality? In this article we investigate the dynamics of a population of financial organizations—credit unions in New York City from 1914 through 1990—with this question in mind. We examine failure rates and growth rates of organizations in this population, emphasizing their dependence on age and size. If the first view of organizational dynamics is correct, older and larger organizations have lower failure rates and higher growth rates than their competitors. On the other hand, the Schumpeterian vision of creative destruction suggests increasing disadvantages for organizations over time, so that older and larger organizations have higher rates of mortality and lower rates of growth.

Recent research suggests that rates of organizational failure and growth are linked. For example, if the probability that an organization fails depends on its size, then failure rates and growth rates must be connected. This connection would exist because the distribution of organizational sizes at any given time reflects prior processes of growth and decline. However, the nature of these interactions is not well understood. There are few published examples of research on rates of mortality *and* growth of the same organizational population.<sup>2</sup> This article tries to make these linkages explicit in empirical research on the evolution of one organizational population. We seek to integrate aspects of processes at the level of organizational populations with the dynamics of growth and decline at the level of organizations

First, we examine the effects of age and size on organizational mortality rates, which shape the age distribution of an organizational population. Then we examine the effects of age and size on organizational growth rates, which shape the population's size distribution. In both cases we also investigate the role of population-level density, defined as the number of organizations in the population.

The lack of comprehensive data on growth and decline at the organizational level has hampered research on organizational ecology. Rarely are records of assets, profits, or outputs available from year to year for all organizations, including the small and short-lived, in a population. Financial deposit institutions are sometimes an exception to this rule. Organizations such as banks and insurance companies, which are central to modern economies, are often regulated, and their financial status is a matter of public record. This research on growth and decline processes in organizational populations focuses on state-chartered credit unions in New York City over the period 1914–90, partly because the archival records contain complete coverage of yearly sizes of all organizations in the population over its full history. This study allows analysis of organizational growth and decline without posing vexing problems of left-truncation of the population's history and also provides a long period of observation.

#### AGE AND RATES OF GROWTH AND MORTALITY

The sociological literature on organizational age and mortality began with Stinchcombe's (1965) observation that organizations experience a liability of newness: new organizations fail at higher rates than old ones. His arguments supporting this claim point to both internal organizational

<sup>2</sup> Below we discuss research by Ranger-Moore (1990), Banaszak-Holl (1991), and Barron (1992) that does report such analyses.

issues and environmental relations. Efficient organization requires trust among members, and trust takes time to build. Setting up and refining roles and routines, learning about the relevant environment, and developing relationships with existing organizations also take time. Once established, these patterns of relationships form a social structure that supports an organization's survival chances.

The liability of newness was subsequently derived from an evolutionary argument. Hannan and Freeman (1984) argued that social selection processes favor organizations and organizational forms that have high reliability and accountability, which in turn depend on high-fidelity reproduction of structure. Only organizations that have established their structures through time and over repeated interactions can faithfully reproduce their structures. So reliability and accountability increase with age, and mortality rates decrease with age, according to this theory (see Péli et al. [1994] for an improved formalization of this argument).

Early research supported Stinchcombe's hypothesis: Carroll (1983) and Freeman, Carroll, and Hannan (1983) found age had negative effects on mortality rates in diverse organizational populations. Much subsequent research corroborated these findings (see the reviews by Aldrich and Marsden [1988] and Singh and Lumsden [1990]), and the liability of newness became part of the conventional wisdom of organizational sociology.

Some subsequent research found that mortality rates do not always decline monotonically from founding. Instead, rates sometimes rise during a brief early portion of the life span—while initial stocks of resources are exhausted—before declining over most of a typical life span (Carroll and Huo 1988; Aldrich et al. 1990; Brüderl and Schüssler 1990; Fichman and Levinthal 1991). These results have stimulated some to propose that failure rates peak during "adolescence." Nonetheless, the proponents of this idea continue to assume that mortality rates decline with age over the great bulk of expected organizational lifespans (citing the reasons advanced by Stinchcombe [1965] and Hannan and Freeman [1984]).

The voluminous research on age and organizational mortality failed until recently to consider age-varying organizational size. We regard this omission as crucial. Variations in size over lifetimes might account for the observed liability of newness (or the decline in mortality rates over most of organizational life spans, as envisioned by proponents of the liability of adolescence): organizations tend to grow with age, and mortality rates presumably decline with size. In other words, the widespread finding that mortality rates decline with age might reflect an association of youth and small size along with an effect of size on mortality rates, instead of a causal effect of aging.



The failure of most previous studies to account for variations in size over organizational lifetimes does not reflect a lack of attention to this possible specification bias.<sup>3</sup> Rather it reflects the great difficulty of finding data on the sizes of all organizations in a population over its history. Several researchers have now collected the appropriate data and estimated models in which mortality rates depend upon age and size, with size measured repeatedly over the life spans of all organizations in a population (over some segment of the population's history). This change in specification makes a big difference. Most such studies show that controlling size makes the effect of age *positive*.<sup>4</sup> Barnett (1990) reports a positive and significant effect of age on mortality rates for the population of early telephone companies in Pennsylvania and a positive, nonsignificant effect for a similar population in Iowa.<sup>5</sup> Ranger-Moore (1990, 1991) reports a positive, marginally significant effect for the population of life insurance companies in New York State during 1875–1937, and Banaszak-Holl (1991) reports a positive, nonsignificant effect on the rate of bankruptcy and a significant, positive effect on the rate of absorption for banks in Manhattan during 1840–1980. Baum and Oliver (1991) find a significant positive effect for licensed day-care centers and nurseries in Toronto during 1971–87. Carroll and Swaminathan (1992) find a positive and significant effect for brewpubs and a positive but nonsignificant effect for microbreweries over 1975–90. Baum and Mezias (1992) report that age has a positive and significant effect on the mortality rates of Manhattan hotels during 1898–1990. Finally, Amburgey, Dacin, and Kelley (1994) found a positive and significant effect of age for the population of U.S. credit unions during 1980–89.

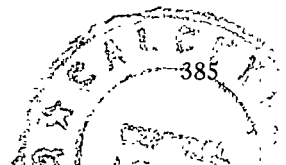
Two studies yield the opposite pattern: significant negative effects of age, even after controlling for age-varying organizational size.<sup>6</sup> These are

<sup>3</sup> Freeman et al. (1983), for instance, noted that unobserved differences in size could produce the empirical pattern of a liability of newness.

<sup>4</sup> We consider here only studies that control for size variations over organizational lifetimes and not those that control only for size at founding (e.g., Hannan [1989b]; Brüderl and Schüssler [1991]).

<sup>5</sup> In a more complicated specification that allows mortality rates to rise following adaptive technical changes, Barnett (1994) reports that age has a significant nonmonotonic effect on the mortality rates of early Pennsylvania companies when age-varying size is controlled. However, size has a trivial, nonsignificant effect on the rate. This result makes plain that controlling for size affects the form of age dependence only when size itself has a substantial effect on the mortality rate.

<sup>6</sup> Another study arguably belongs on this list. Freeman (1990, table 3.1) found that rates of exit from the semiconductor industry during 1947–84 fell with duration in the industry, even when organizational size was controlled. We question the relevance of this study for three reasons. First, the life event differs—exit from the industry, either by the ending of an organization or by a move to another industry. Second,



Haveman's (1992) study of savings and loan associations in California during 1977–87 and Delacroix and Swaminathan's (1991) analysis of California wineries during 1946–84.

Differences in the quality of observation plans can plausibly explain at least some divergence in findings. Four of these studies involve heavy left-truncation of the population's history: the studies of day-care centers (Baum and Oliver 1991), wineries (Delacroix and Swaminathan 1991), savings and loan associations (Haveman 1992), and Amburgey et al.'s (1994) study of credit unions.<sup>7</sup> In each study, observation begins at least 50 years after the start of the population. Two of these studies (Haveman, and Delacroix and Swaminathan) find significant negative effects of age, but the other two find significant positive effects. All other studies, whose observations begin early in the evolution of the population, report positive effects of age. We think that heavy left-truncation introduces substantial noise into analyses of the effects of organizational age on mortality rates.<sup>8</sup> We conclude that most weight should be given to studies that follow populations from their inception, and the evidence from studies that meet this criterion suggests that age has a positive effect on mortality rates, once the effect of age-varying size has been considered.

So, without much fanfare—no doubt, because the conventional wisdom remains strong—evidence has begun to mount against the liability of newness.<sup>9</sup> It is important for organizational sociologists to know whether mortality rates really rise with age, when age-varying size is controlled. The conventional wisdom implies that mature organizations can better withstand environmental shocks than their newly founded competitors. In other words, negative age dependence suggests that environmental selection operates mainly on new organizations. On the other hand, positive age dependence implies that selection operates more broadly: large environmental shocks can have big effects on old organizations. Dynamics in the two cases differ markedly, as do the relations between organizations and social structure.

---

the time dimension differs—time spent in an industry instead of age. Third, the cases used in this analysis include both independent firms and divisions of larger firms. Moreover, coverage of size is incomplete (especially for small organizations): fully one-third of the observations are lost when size is used as a covariate, even after missing values are interpolated when possible.

<sup>7</sup> In the cases we consider, no information is available on organizations that failed before the observation period, including the fact that they existed. Thus, data produced by these designs are left-truncated rather than left-censored (Cox and Oakes 1984, pp. 177–78).

<sup>8</sup> Hannan and Carroll (1992) show that this is true for density dependence.

<sup>9</sup> It is interesting that most of the studies that report positive age dependence make little or nothing of the finding and treat age as only a necessary control.

Positive age dependence can arise for at least two reasons. The first involves a combination of organizational inertia and environmental change. If inertial forces on organizational structure are strong (as organizational ecologists posit), then organizations become "locked in" to the strategies and structures adopted during their early years. Initial strategies and structures are shaped by prevailing cultural and social understandings and practices (Stinchcombe 1965). As environments change, the appropriate strategies and structures for adapting to them also change. The organizational arrangements that fit the sociocultural environment of, say, a hundred years ago might differ substantially from those that fit today. If inertial forces are strong, then the possibilities of organizational adaptation in response to the changing environment are extremely limited. Attempts at reorganization might, in fact, decrease survival chances.

Carroll (1983, p. 313) noted the possibility that "organizational age will coincide roughly with the amount of environmental change experienced by an organization." If this tendency holds on average and core structures are "imprinted" in youth, then older cohorts of organizations have lower fitness in the current environment. If this image of organizational development is accurate, then mortality rates increase with age. Notice that this scenario does not attribute causal significance to aging *per se* (see Carroll 1983). Under these conditions, mortality rates are independent of age in stable environments. Such a pattern might thus be called a liability of obsolescence.

An alternative interpretation does attribute causal significance to organizational aging. Suppose, for instance, that organizations accumulate rules, routines, and structures as they age and that these features are durable. Suppose further that accumulating rules, routines, and structures impedes an organization's ability to act, especially in a timely fashion, in the face of environmental volatility. If these suppositions are correct, then old organizations are disadvantaged compared with younger ones in changing environments. Alternatively, accumulating rules, routines, and structures might simply impose an overhead cost that reduces the efficiency of organizations even in stable environments. In either case, older organizations have higher mortality rates, adjusting for size. Here, the liability is one of senescence.

We cannot distinguish between aging as obsolescence and aging as senescence in our analysis. However, if age has a positive relationship with mortality in appropriately specified models, then we have strong reasons for designing research that can distinguish the underlying mechanism producing this relationship. We discuss this issue further in the concluding section.

Although students of organizations have long considered the relation-

ship between age and failure rates, much less attention has been paid to the possibility that age affects organizational growth and decline. However, Dunne, Roberts, and Samuelson (1989) describe a model that predicts that the size and age of a manufacturing plant will affect both its growth rate and risk of failure. They test this model empirically using a large data set consisting of plants drawn from four consecutive waves of the U.S. Census of Manufacturers: 1962, 1967, 1972, and 1977. Broadly speaking, plant failure rates and growth rates decline with organizational age and size. Problems with this research include its use of a very heterogeneous set of organizations and the long intervals between panels of data. Moreover, Dunne et al. consider plants, not firms; the units are not necessarily independent organizations. By contrast, we focus on independent organizations in a single, relatively homogeneous population over a long period of time, with measures of organizational size taken each year.

Some insight into organizational growth processes can also be gleaned from general arguments about organizational aging used in explaining variations in organizational mortality. If we are correct that aging signals social and technical obsolescence or increasing rigidity of response, then growth rates ought to decline on average as organizations age. That is, our arguments about obsolescence and senescence imply that growth rates decline monotonically with age.

#### SIZE AND RATES OF GROWTH AND MORTALITY

There seems to be broad agreement that a liability of smallness characterizes the organizational world. Hannan and Freeman (1977) argue that the appropriate time scale for a selection process increases with the size of organizations under consideration (which is another way of saying that mortality rates fall with size). Large organizations can retrench by reducing their scale of operations over long periods of poor performance before they are forced to disband. Small organizations have little room to contract, and they fail quickly once fortunes decline.

Levinthal (1991) formalized this idea as a diffusion process of "organizational capital," which is presumably related to size (at least when measured appropriately—see below). This model assumes that organizations begin with differing stocks of capital and experience random drift in capital over their lifetimes. Organizational mortality occurs when the drift in capital reaches some lower bound. If changes in capital are governed by a diffusion process (meaning that huge jumps cannot take place in a brief period), then the probability of mortality in any period obviously declines with the stock of capital (and thus, perhaps, with size). This formalization captures the essence of the idea that an effect of cur-

rent size on mortality rates reflects differences in initial endowments and in subsequent histories of success and failure in garnering resources from the environment.

The assumption of a liability of smallness is built on a slim empirical base. However, the recent studies that collected and analyzed size data over the lifetimes of all organizations in populations, discussed above, confirm the liability of smallness. Four studies report significant negative correlations between size and mortality: Ranger-Moore (1990), Banaszak-Holl (1991), Delacroix and Swaminathan (1991), and Baum and Mezias (1992). Another (Barnett 1990) reports nonsignificant negative effects. Only Haveman (1992) reports a significant positive effect.

Two recent studies recast the effect of size on mortality rates in terms of the Hannan and Freeman (1977) hypothesis that life chances of organizations are poor in the center of size distributions. Wholey, Christianson, and Sánchez (1992) find that this is the case for mortality rates of the subpopulation of group-practice health maintenance organizations in the United States during 1976–91. For the other subpopulation, independent practice associations, size has a monotonic negative effect on mortality rates. Amburgey et al. (1994) fit a third-order polynomial in size to mortality rates and find that rates are elevated in the middle of the size range. These results suggest interesting possibilities, but they are hard to interpret because they do not separate the effect of size from the effect of relative position in the distribution. Nonetheless, we examined the possibility of such complex effects of size in this study.

Although the existence of a liability of smallness seems to have been taken for granted by organizational researchers, the relationship between an organization's size and its rate of growth is more controversial. Much research on organizational growth has sought to assess Gibrat's (1931) claim that growth rates of firms, like those of other "naturally occurring" economic units, obey the "law of proportionate effect" (Kapteyn 1903), which holds that (absolute) growth is proportional to size and that the factor of proportionality is random. Put differently, proportional growth rates are independent of size. This claim about organizational growth rates is commonly called Gibrat's law.

Early empirical studies of the growth of firms found mixed support, at best, for Gibrat's law (see reviews in Hannan and Ranger-Moore [1990] and Hannan, Ranger-Moore, and Banaszak-Holl [1990]). Most recent research, which uses better methods of estimation, indicates that (proportional) growth rates diminish with size. The relevant studies by economists include those by Chesher (1979), Kumar (1985), Evans (1987*a*, 1987*b*), and Hall (1987). Two recent organizational ecology studies, Ranger-Moore (1990) and Barnett (1994), which differ from those by economists in focusing on homogeneous populations, agree that growth

rates decrease with size, but Banaszak-Holl (1991) obtains the opposite pattern.

Blau and Scott (1962) noted that organizations can, in principle, grow without limit. Unlimited growth, which follows as an implication of positive effects of size on growth rates, obviously reduces the diversity of organizations in a system and concentrates social power. Negative size dependence, on the other hand, suggests that features of organizational processes and relations between the organization and its environment place limits on the possibility of unbridled growth. Growth rates might also be limited if organizations have an optimum size, at which unit costs are minimized, as economists posit. The nature and strength of such limits on growth presumably vary among classes of organizations and among social environments. If we are to understand such differences, we need comparative studies and explicit models of the effect of size on growth rates. The research reported here takes a first step in this direction.

#### DENSITY AND RATES OF GROWTH AND MORTALITY

We also investigate whether controlling for size alters patterns of density dependence in mortality rates. Few of the many recent empirical studies on this issue have controlled for age-varying organizational size. Such controls can change substantially the apparent effects of organizational characteristics such as age. They might also change the effects of density.<sup>10</sup>

We also want to learn whether the theory and model of density depen-

<sup>10</sup> Some researchers have suggested that findings of density dependence are not structural but are implications of effects of population mass, defined as the sum of the sizes of all organizations in the population (Winter 1990; see also Barnett and Amburgey 1990). These interesting arguments have been difficult to examine empirically, because appropriate data (records of the life histories of all organizations in a population over its full history with measures of age-varying size at the organizational level) have been lacking. However, two previous studies of populations of firms in the financial sector examined this issue. For life insurance companies in New York State during 1840–1985, Hannan and Carroll (1992, table 6.3) found that adding population mass does not eliminate the significant nonmonotonic effect of contemporaneous density on the rate of bankruptcy or of the significant positive effect of density at founding. Banaszak-Holl's (1991) study of Manhattan banks during 1791–1980 also found that contemporaneous density has the predicted pattern of effects and is statistically significant, even when population mass is controlled. We explored effects of mass for mortality rates in this research but found no evidence that population mass has a systematic effect, net of the effect of density and the other covariates discussed below. Moreover, controlling for population mass did not eliminate the significant effects of density on mortality rates. Because we were unable to identify systematic effects, we do not report estimates of models that contain effects of mass.

dence, developed to explain rates of founding and failure, applies to growth rates as well. This theory treats the growth and stabilization of organizational populations as a consequence of processes of legitimation and competition (Hannan 1989a; Hannan and Carroll 1992).<sup>11</sup> It posits that founding rates rise and mortality rates fall as the legitimation of a population increases and that founding rates fall and mortality rates rise as competition within and among populations intensifies. It posits further that legitimation and competition vary with density, defined as the number of organizations in the population. Specifically, increasing density conveys legitimation in the sense of taken-for-grantedness, but there is a ceiling on the process. Competition also grows with density but at an increasing rate. Combining the two main ideas yields a qualitative theory of density dependence in vital rates of organizational populations. It implies that the relationship of density to founding rates has an inverted U shape and the relationship of density to mortality rates has a U shape.

An extension of the theory proposes that density has a delayed effect (as well as a contemporaneous effect) on mortality rates (Carroll and Hannan 1989). Specifically, high density at the time of an organization's founding produces a permanent increase in its risk of failing. High density at founding signals intense competition at that time. Intense competition at founding affects the imprinting process by which organization builders absorb resources and incorporate models and imitate forms that are current in the environment. Thus, the intensity of competition at founding has long-term effects on the mortality rates. In practice this means that mortality rates are elevated for all members of cohorts founded in periods of intense competition and this higher rate persists over time.

We expect that the two key mechanisms—legitimation and competition—also affect organizational growth rates. Organizational growth means attracting new resources. For example, credit unions grow by recruiting new members and keeping existing ones. This task can surely be accomplished more easily when the organizational form is accepted as a legitimate way of doing business (Barron 1992, 1995). For the consumer, there are costs involved in searching for reliable and trustworthy financial services, so financial institutions that are well known and respected enjoy a competitive advantage. People are more inclined to entrust their savings to organizations that have become familiar and have developed a reputation for security, and they are more likely to turn to credit unions for loans when knowledge of their practice of providing

<sup>11</sup> In the theory, legitimation means that an organizational form gains the status of being taken for granted, and competition refers to constraints arising from the joint dependence of multiple organizations on the same set of finite resources.

low-cost credit spreads widely. More generally, we argue that growth in the legitimacy of the organizational form as a whole increases the growth rates of individual organizations, just as much prior research has found that it reduces organizational failure rates.

The model we develop specifies limits to organizational growth. Competitive interactions presumably retard growth on average as unattached resources become scarcer. According to the theory, the intensity of competitive interactions grows with density at an increasing rate. Therefore, we expect the same pattern of nonmonotonic density dependence in organizational growth rates that previous research has reported for founding rates.<sup>12</sup> The relationship between density and legitimation should cause the growth rates of individual organizations to rise as the number of organizations in the population increases. However, this process eventually is counteracted by the opposing force of competition, leading to a decline in rates of growth at high density.

The scanty empirical literature does not support this prediction. Ranger-Moore (1990), Banaszak-Holl (1991), and Barnett (1994) report that density has a monotonic negative effect on proportionate growth over the relevant ranges of density. These analysts interpret these results to mean that density-dependent competition dominates legitimation in affecting growth rates. Alternatively, the model might simply not apply to growth rates.

If the estimated effects of density on rates of founding and mortality really reflect the operation of general processes of legitimation and competition, then we would expect to obtain qualitatively similar effects of density on founding rates and growth rates and the opposite effects on rates of mortality. In other words, applying the theory to growth rates provides information about the generality of the postulated processes.

#### STATE-CHARTERED CREDIT UNIONS IN NEW YORK CITY, 1914-90

The credit union is a distinctive organizational form within the class of "deposit institutions" (Moody and Fite 1984). In the United States, credit unions first began early in this century, though similar organizations had been operating for some years in Germany, Italy, and Quebec. Credit unions are cooperative thrift organizations, run on the principle of one member, one vote. Services are available only to members, and membership, obtained by the purchase of one or more dividend-yielding shares, is restricted to those sharing a specified "common bond." Credit unions in New York resemble those elsewhere in the United States in that most

<sup>12</sup> Hannan, West, and Barron (1994) report that this pattern of nonmonotonic density dependence holds for founding rates of credit unions.



draw their members from groups of employees, labor unions, fraternal organizations, churches, and other types of associations. Common bonds based on place of residence have proved less stable and, therefore, have been discouraged by state banking authorities and the New York State Credit Union League. Historically, the most important service provided by credit unions has been consumer credit, though they now provide a wide range of retail financial services, including share draft accounts that operate much like checking accounts, credit cards, and real estate mortgages. This increasing encroachment into the traditional domains of other financial institutions and continued growth in the sizes of credit unions has caused the tax-exempt status of credit unions to be called into question, particularly by commercial banks. Also, credit unions have faced increasing competition for consumer loans. Regulators have encouraged weaker credit unions to merge with more stable partners to produce larger organizations more suited to coping with this increased competitive pressure. However, this strategy has not been universally popular. Critics have argued that increasingly large organizations built on tenuous common bonds and run by large professional staffs have little to do with the democratic, self-help ideals of the credit union movement.

We obtained data on foundings, failures, and growth and decline from the New York State Banking Department's (1914–90) *Annual Report of the Superintendent of Banks*. Beginning in 1914, when New York State first authorized the formation of credit unions, all credit unions were required to obtain state charters and to file a statement of their condition each year, including their total assets. We used assets, corrected for inflation, as our measure of credit union size. Each year's report also lists new foundings, liquidations, and mergers. Thus, one can construct a data set containing the size of each credit union in each year of its operation.

We collected such data on all state-chartered credit unions (SCUs) that have operated in the three largest cities in New York State: New York City, Buffalo, and Rochester. Far more of these organizations began in New York City (250) than in Buffalo (36) and Rochester (21). The paucity of organizations in the upstate cities makes it hard to discern patterns in the vital rates of their populations of credit unions. Therefore, we restrict our attention to New York City.<sup>13</sup>

Beginning in 1934, credit unions were permitted to organize under federal charters. New York's federally chartered credit unions (FCUs) were not obligated to report to the state banking authorities. They are therefore not covered in the annual reports (New York State Banking

<sup>13</sup> Elsewhere (Hannan et al. 1994), we have reported results for Buffalo and Rochester.

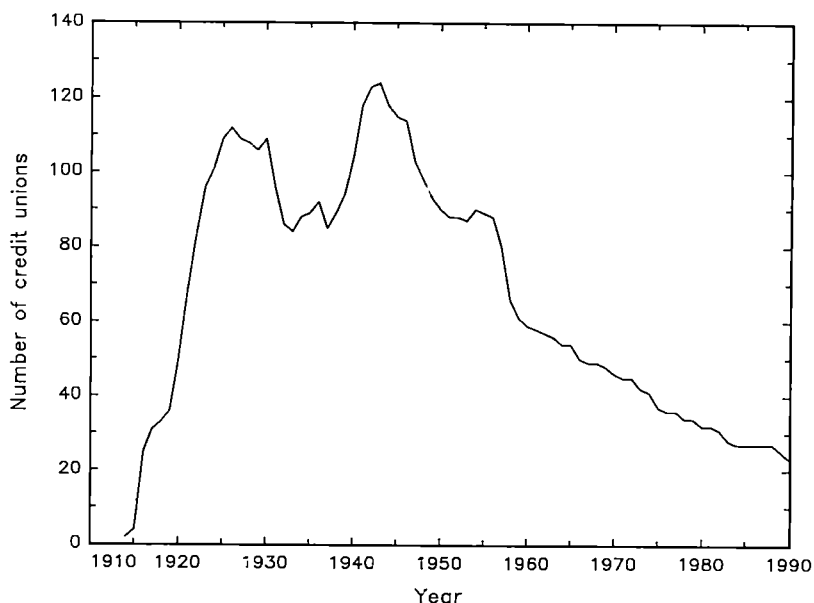


FIG. 1.—Number of state-chartered credit unions in New York City, 1914–90

Department 1914–90). Although FCUs were required to submit similar reports to a (frequently changing) federal agency, our searches in various archives failed to yield data on individual organizations for the crucial early years of this population. So, we cannot conduct parallel analyses for FCUs. However, we did uncover aggregate data on FCUs for the full period, which we use in constructing various control variables.<sup>14</sup>

Figure 1 shows the growth of SCUs in New York City from the first founding in 1914 through 1990. Density (the number of organizations in the population) rose sharply over the first 20 years, then contracted, before rising during the late 1930s. Density peaked in 1942 at 124 and then began a gradual decline to 21 in 1990. Yet, both membership mass (total members in all unions) and asset mass (total assets of all unions) continued to grow over the whole period (Hannan et al. 1994).

### Measuring Organizational Size

Recent organizational research on age-varying size and life chances has diverged in conceptualizing and measuring organizational size. One

<sup>14</sup> We believe that concentrating our analyses on SCUs is also justified by the fact that there are substantive differences between the two organizational forms. For example, only FCUs can branch across state lines.

strand of research regards size as capacity. Examples include: storage capacity of wineries (Delacroix, Swaminathan, and Solt 1989; Delacroix and Swaminathan 1991), production capacity of breweries (Carroll and Swaminathan 1992), license restrictions on the enrollment of day-care centers (Baum and Oliver 1989), and room counts of hotels (Baum and Mezias 1992). The other strand regards size as scale of operations. Examples include: number of subscribers of telephone companies (Barnett 1990) and assets of life insurance companies (Ranger-Moore 1990, 1991), banks (Banaszak-Holl 1991), and savings and loan associations (Haveman 1992).

The notion of capacity relates to physical limits on the scale of operations. A winery builds storage facilities; a day-care center rents a physical space of certain dimensions; a hotel is constructed with a certain number of rooms. Such capacity constraints are limiting on organizations only as the scale of their operations begins to outgrow the physical plant. Organizations, especially in decline, can operate far below capacity: a day-care center with a permit to enroll a stipulated number of children might operate below capacity, or a large hotel might fail to rent any rooms and remain empty. In such cases, capacity tells us little about the current scale of operations. Moreover, capacity constraints change discontinuously, even when the scale of operations changes continuously, both in growth and decline. There are lags in adjustment of capacity to growth and decline in scale. For both of these reasons, we think that scale of operations tells more than capacity about an organization's success in acquiring resources from its environment and its capacity to withstand periods of ill fortune.

Analysts of credit union finances customarily measure size and growth in terms of organizational assets (Pearce 1984). The primary goal of these organizations is to provide low-cost consumer credit, and most credit union assets are held in the form of consumer loans.<sup>15</sup> Furthermore, a credit union's assets measures the actual activity of the organization, unlike membership size, which gives equal weight to active and inactive members.

Figure 2 shows a plot of the aggregate assets held by SCUs in New York City (in constant dollars) from 1914 through 1990. In contrast to the decline in the number of credit unions from 1942 onward, credit union assets continued to grow rapidly until the late 1960s. There was a sharp drop in credit union assets between 1978 and 1982. Almost one-third of this decline, however, is due to the reduction in size of the New

<sup>15</sup> Indeed, evidence suggests that credit unions sometimes choose to make consumer loans even when they could obtain a better return on their capital from other forms of investment (Navratil 1981).

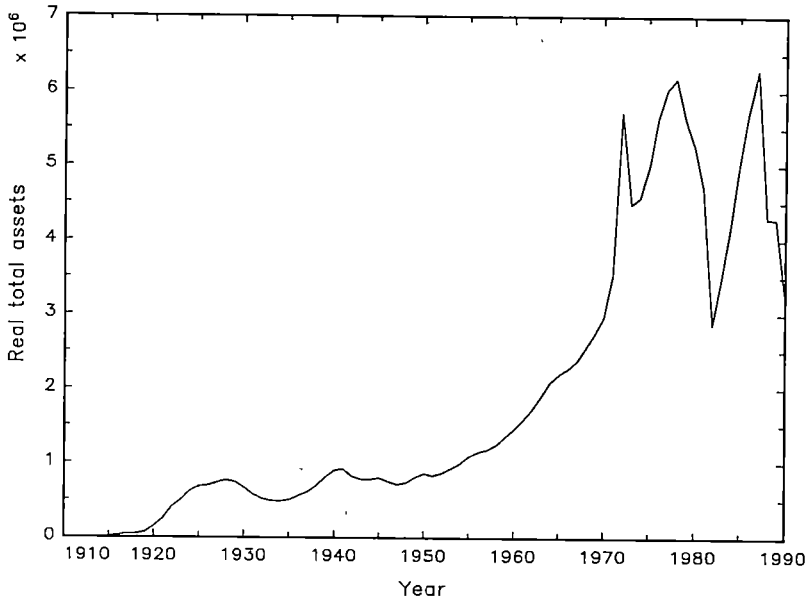


FIG. 2.—Aggregate assets (constant dollars) of state-chartered credit unions in New York City, 1914–90.

York City employees credit union. Assets recovered again through the mid-1980s, only to experience another sharp drop from 1987 through 1990.

Taking the period of our study as a whole, credit unions grew at an average annual rate of 25%. However, the first 20 years of the population's history saw much more rapid growth than did the period following the passage of the Federal Credit Union Act in 1934. From 1914 until 1934, the average proportional growth of credit unions was 64%, but this fell to 11.8% between 1935 and 1990.

### Measuring Environmental Variations

To approximate the fluctuations in the environment facing these organizations over time, we use a combination of measures. These include features of the wider credit union movement, changing government regulations, and changes in economic conditions.

The Russell Sage Foundation assumed initial responsibility for getting the credit union movement off the ground in New York City. The foundation was instrumental in defining the absence of consumer credit as a social problem by drawing attention to the fact that, even in the early

20th century, ordinary people lacked access to credit at reasonable rates and were driven to borrow from loan sharks at exorbitant (and illegal) rates to cover such essentials as medical care. The Russell Sage Foundation took the lead in a number of anti-loan shark campaigns, and it promoted credit unions as a solution. The foundation was located in New York City, and the first credit unions in the state began there. Only after the form was well established in New York City did credit unions appear in cities such as Buffalo and Rochester. In the early years, paid organizers traveled from place to place to stimulate interest in credit unions. Geographical diffusion of this organizational form, that is, the growth in the number of unions in the rest of the state, might have reflected the shifting patterns of attention by organizers. Thus, the proliferation of credit unions in the rest of the state might signal a shift in the focus of social movement organizing. Such a shift might have slowed the growth of the movement in New York City. Accordingly, we allow the rates to depend upon the number of unions with state charters in the rest of the state (which we call nonlocal density).

A challenging issue in model specification is how to account for the effect of the most important regulatory change affecting credit unions: the Federal Credit Union Act of 1934, which sanctioned the formation of FCUs.<sup>16</sup> We think that this legislation had opposing short-term and long-term effects on existing credit unions in New York City. In other research, we have found that the act enhanced the institutional standing of all credit unions in the short run and thus increased founding rates of all types of credit unions (Hannan et al. 1994). However, we also found that the long-run consequence of the shift in emphasis from state chartering to federal chartering was a secular decline in founding rates of the state-charter form. We represent this combination of effects by using a period effect that distinguishes the period beginning in 1934 from the preceding years and a trend term. The period effect for the years 1934–90 is the coefficient of a dummy variable that equals “0” for all years before 1934 and equals “1” for all later years. The trend term is defined as the same dummy variable multiplied by a log-linear time trend set equal to “0” for all years before 1934 and equal to (year minus 1934) for all subsequent years. The idea behind this complicated coding is that the period effect picks up the pure institutionalizing effect of the regulatory change and the time trend picks up the secular trend due to the continued operation of the new system.

Once FCUs were authorized in 1934, the form proliferated rapidly

<sup>16</sup> We have also tried using period effects to mark the other major regulatory changes, including deregulation of the financial services sector during the 1970s and 1980s. However, including such effects did not improve the fit of our models.

and eventually became numerically dominant in New York State. We investigated whether the density of FCUs (in the state as a whole and in the city) affected the vital rates of the focal population. By including both the density of FCUs and the effect of the legislation that authorized this form (the 1934–90 effect and the trend term), we hope to distinguish the legitimating effects of the federal legislation from its longer-run implications for competition.

States have differed considerably in their degree of regulation of credit unions. Where state laws did not exist or were not conducive to the aims of the movement, federal charters dominated. Where the state legal system offered greater opportunity for development, the federal legislation was barely used. New York falls between these extremes in that both forms persist. Nonetheless, the federally chartered form has come to dominate, though it has only gradually come to displace the state-chartered form, as we noted above. To represent variations in the domination of federal authorization, we calculated the ratio of federal to state charters for each year, which equals zero by definition before 1935 and eventually rises to 13.6 in 1989.

Proliferation of FCUs in the state (and the nation) has probably enhanced the standing of SCUs. Nonetheless, the two forms might have competed within cities. We examine this possibility by relating the growth rate of SCUs in the city to the number of FCUs elsewhere in the state (zero by definition prior to 1934) and to the (partly estimated) number of unions with federal charters in New York City.<sup>17</sup> We have tried several specifications of this effect, including one that parallels the one used for local density (with density and density squared). Because a simple monotonic specification of this effect fit virtually as well as more complicated ones, we rely on the simple specification.

We also estimated the effects of several indicators of economic conditions, including several variables relating to inflation, (e.g., the price of prime commercial paper, the U.S. conventional real estate mortgage rates, Manhattan HUD average, and the rediscount rate of the Federal Reserve Bank of New York), the general economic climate (e.g., the consumer price index, years of economic depression), and the local economic climate (e.g., business failures and number of new automobile registrations in the state). However, the only variable with a consistently significant effect is the interest rate on municipal bonds.

<sup>17</sup> Although we have counts of the number of FCUs in New York City from 1960 onward, we could not locate such a breakdown for the early years of the population. We used the ratio of city to state populations from 1960 on to estimate back in time to 1934, to create two variables: density of FCUs within the city and in the state.

TABLE 1  
FREQUENCIES OF TYPES OF ENDING EVENTS

Ending Event	<i>N</i>
Did not fail .....	24
Voluntary liquidation .....	51
Involuntary liquidation .....	18
Merger .....	11
Authorization expired .....	10
Ceased filing reports .....	33
Left New York City .....	2
Became a federal credit union .....	1

## ANALYSIS OF MORTALITY RATES

### Definition of Mortality Events

The summary tables in the *Annual Report of the Superintendent of Banks* (New York State Banking Department 1914–90) list credit unions that ceased to operate during the year, along with the reasons for the endings. The distribution of ending events can be found in table 1. In 33 cases (13% of the observations), we lack information about the exact cause of the cessation of operations—the state’s annual reports simply ceased to publish information about the credit union. Of those failures with a recorded cause, far and away the most common are voluntary liquidations. Liquidations were also imposed by the state authorities in a small number of cases. Merger was very uncommon: only 11 credit unions ended in this way. However, as several studies report significant differences in the processes leading to liquidation and merger, in the analysis reported here, only endings due to liquidation and those of unknown cause were counted as instances of mortality.<sup>18</sup> Organizations moving out of New York City or switching from state to federal charters were also excluded from our data. We treated spells ending in merger, exit from the city, or change of charter as censored on the right.

### Models

We estimate models in which the mortality rate of the  $i$ th organization at age  $a$ , represented by  $\mu_i(a)$ , depends upon age, size ( $S$ ), population

<sup>18</sup> We also carried out analyses including mergers as instances of organizational failure; the results are almost identical to those we report.

density ( $N$ ), and a set of environmental characteristics ( $x$ ):

$$\mu_i(a) = \theta(a) \cdot \phi(S_{ia}) \cdot \exp(\beta_1 N_a + \beta_2 N_a^2 + \beta_3 N_{if} + x'_{ia} \pi). \quad (1)$$

Here  $N_a$  denotes contemporaneous density—the density of the population at the start of the calendar year in which the organization reaches age  $a$ —and  $N_{if}$  is density at the time of organization  $i$ 's founding.

Given the dissensus about the form of age dependence, we begin analysis with a flexible piecewise exponential model, which allows the rate to vary in an unconstrained way at preselected ages (Tuma and Hannan 1984). That is, we divide the age range at  $K$  points ( $a_1, a_2, \dots, a_K$ ), and we estimate constants (baseline mortality rates) for each age segment:

$$\theta(a) = \exp \left( \sum_{k=1}^K \mu_k i_k \right), \quad (2)$$

where

$$i_k = \begin{cases} 1 & \text{if } a_{k-1} \leq a < a_k; \\ 0 & \text{otherwise.} \end{cases}$$

In this parameterization, each age segment has its own baseline mortality rate ( $\mu_k$ ), rates are constant within segments, and no constraints are imposed on the baseline rates. That is, the mortality rate can vary freely, rising or falling, from one age segment to another. By comparing the estimates of baseline rates, one can learn whether any monotonic pattern of age effects holds, even approximately. The effects from this flexible specification turn out to be roughly monotonic over substantial portions of the age range in our research (see below), so we also use an appropriate parametric specification of monotonic age dependence—a simple form of the Weibull model:

$$\theta(a) = \rho a^{\rho-1}. \quad (3)$$

The few prior studies of size and mortality provide little guidance about the specific form of the relationship. We reasoned that the benefits that accrue to an organization in terms of a declining risk of failure with increasing size are likely to increase at a decreasing rate. That is, we would expect a greater reduction in failure rates for organizations that grow from total assets of, say, \$10,000 to \$100,000 than for organizations that grow from \$10 million to \$100 million. We specify the effect of size to be consistent with this pattern:

$$\phi(S_{ia}) = S_{ia}^\alpha, \quad (4)$$

and we hypothesize that  $0 < \alpha < 1$ .



However, other relationships between size and mortality are possible. For example, economic theories of the firm generally posit that organizations have an optimum size at which average unit costs of production are minimized. This might suggest that there should be a U-shaped relationship between size and mortality rates, with the chances of failure declining as the organization approaches its optimum size, then rising as growth continues beyond this point. As we noted above, some recent research suggests that medium-sized organizations (those in the center of the size distribution) would experience higher rates of failure than either smaller or larger organizations, because competition is more intense in this region of the size distribution. Amburgey et al. (1994) used a cubic relationship of size to mortality rates, and Wholey et al. (1992) used a kind of quadratic specification. Because each of these relationships is plausible theoretically, we estimated quadratic, cubic, and piecewise specifications of size effects on failure rates. However, we did not detect any evidence of nonmonotonicity, so we report results from the monotonic specification in equation (4).

The theory of legitimation and competition implies that the effect of contemporaneous density on mortality rates is that the first-order effect ( $\beta_1$ ) is negative and the second-order effect ( $\beta_2$ ) is positive. The effect of density at founding ( $\beta_3$ ) is predicted to be positive.

### Estimation

Our data are unusual in that times of foundings are known to the day and year, but times of failures are known only to the year. However, this difference is just an artifact of the reporting conventions in the *Annual Report of the Superintendent of Banks* (New York State Banking Department 1914–90)—the organizations can fail any time within a year. Though it might seem preferable to formulate event-history models in discrete time to match the structure of the data on ending times, this approach would ignore the precision of information on founding times. Moreover, discrete-time models would not be true to the underlying social process. We prefer to use a model that reflects the properties of the substantive process (organizational mortality occurs in continuous time) and uses all of the available information. We have done so by constructing a maximum-likelihood estimator of continuous-time stochastic process models specialized to the structure of our data. The appendix describes this estimator; Barron (1992) provides more details.

### Results

Taking account of organizational size makes a big difference in inferences about the effect of aging. The first column of table 2 shows that, when

TABLE 2  
MAXIMUM-LIKELIHOOD ESTIMATES OF CREDIT UNION MORTALITY  
IN NEW YORK CITY, 1914-90

	Model 1	Model 2	Model 3
Constant .....			-1.19 (1.36)
Log (real total assets) .....		-.595* (.046)	-.601* (.046)
Local density .....	-.056† (.032)	-.057 (.038)	-.062† (.031)
Local density squared (in thousands) .....	.452† (.195)	.458† (.227)	.504† (.190)
Founding density .....	.001 (.003)	.003 (.003)	.005† (.003)
Log (nonlocal density) .....	.116 (.120)	.169 (.119)	.112 (.114)
Period 2 (1934-90) .....	-1.80* (.420)	-2.20* (.436)	-2.11* (.425)
Period 2 × trend .....	.145* (.046)	.080 (.045)	.083 (.045)
Ratio FCUs to SCUs in New York State ....	-.778* (.200)	-.763* (.204)	-.694* (.199)
Depression year .....	1.31* (.264)	1.32* (.268)	1.29* (.266)
Bond yields .....	.203 (.141)	.327* (.146)	.280* (.139)
World War II (1941-45) .....	-.506 (.416)	-.722 (.430)	-.678 (.412)
Density of FCUs in New York State outside New York City (in hundreds) .....	.291 (.330)	.361 (.357)	.277 (.342)
Density of FCUs in New York City (in hundreds) .....	.625 (.471)	.917 (.504)	.783 (.484)
Age (in years):			
0-1 .....	-4.20 (1.44)	-1.97 (1.77)	
1-2 .....	-3.60 (1.44)	-.526 (1.77)	
2-3 .....	-3.34 (1.45)	-.264 (1.77)	
3-5 .....	-3.32 (1.43)	.127 (1.77)	
5-10 .....	-3.60 (1.44)	.167 (1.79)	
10-20 .....	-3.64 (1.46)	.320 (1.82)	
20-40 .....	-4.25 (1.47)	.274 (1.85)	
>40 .....	-4.45 (1.51)	.783 (1.89)	
β .....			1.55* (.120)
Log-likelihood .....	-814.0	-735.3	-740.8

NOTE.—Asymptotic SEs shown in parentheses. Estimates are not shown for age dummies, as we are not testing the hypothesis that these coefficients are equal to zero. *N* (spells) = 5,072.

\*  $P < .05$  (two-tailed test).

†  $P < .05$  (one-tailed test).

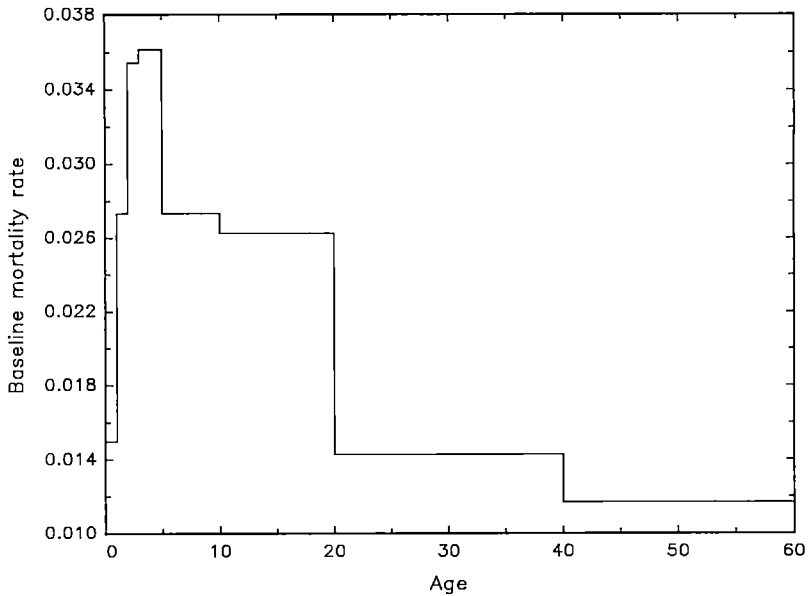


FIG. 3.—Age-specific baseline mortality rates of credit unions in New York City, 1914–90, estimated without controlling for organizational size.

organizational size is not considered, the pattern of age effects suggests a liability of adolescence in organizational mortality. Figure 3 plots the pattern of baseline mortality rates for the age segments implied by the estimates in the first column of table 2 (the rates plotted are the antilogs of the coefficients of the age segments). At very young ages, the chance of mortality is slight, but it rises rapidly until organizations reach the age of five years. Above this point, mortality rates decline as organizations get older. Despite the large absolute sizes of the age-specific rates in the first column, differences among them are small compared with the estimated standard errors. We are not so much concerned with interpreting the effects of age shown in figure 3 themselves, however, as with comparing them with the results obtained when we control for the effect of age-varying organizational size.

When we control for size (col. 2), the mortality rate increases with age at almost all ages (see also fig. 4). (The mortality rate drops slightly between ages 20–40 years, but the decrease is slight compared with the standard errors of these estimates: 0.046 compared to an SE of 1.8.) So we have moved from a pattern of effects consistent with a liability of newness or adolescence to one of liability of aging. Organizations 40 years old or older have a mortality rate 10 times that of newly founded

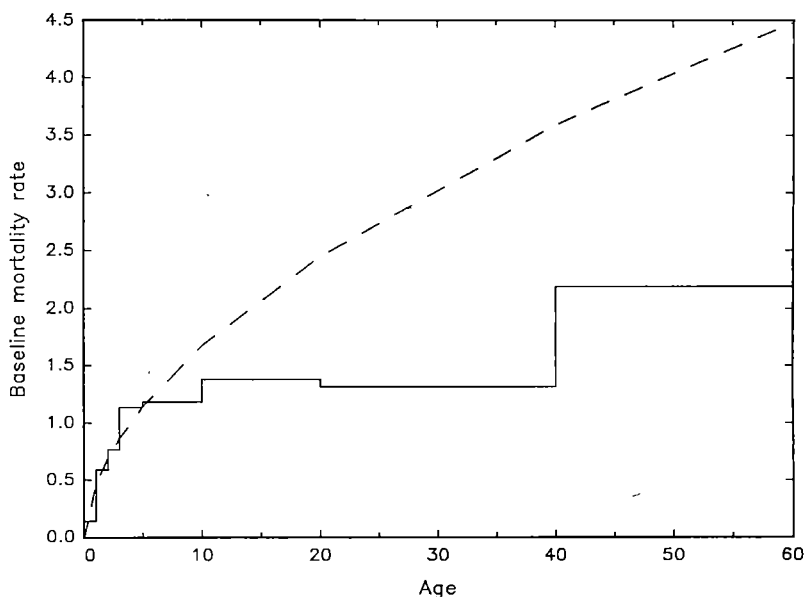


FIG. 4.—Age-specific baseline mortality rates of credit unions in New York City, 1914–90, estimated controlling for organizational size.

organizations, adjusting for possible differences in size, according to the estimates in the second column.

The pattern of baseline mortality rates by age in figure 4 appears quite regular: the mortality rate increases at a decreasing rate over most of the age range. Therefore, we also summarized the effect of aging with a parametric representation: the simple version of a Weibull model in equation (3). This model produces a pattern like that observed in figure 4 if  $1 < \rho < 2$ . Estimates of this representation appear in the third column in table 1. Although the Weibull specification uses six fewer parameters than the piecewise one, the log-likelihood declines only modestly ( $-740.8$  vs.  $-735.3$ ). Thus, we judge that the Weibull model provides a reasonable approximation to the effect of age in this population.<sup>19</sup> Nonetheless, the results of the two parameterizations differ; the pattern of piecewise effects (the solid line in fig. 4) flattens out too much compared with the steep early rise for a Weibull process (the dashed line in fig. 4). That is, the estimated Weibull process understates the baseline rates at young ages and overstates them at older ages. Compared with the fitted Weibull

<sup>19</sup> Because these two models of age dependence are not nested, we cannot conduct a formal likelihood ratio test of the null hypothesis that the piecewise model does not improve significantly on the Weibull specification.

process, the piecewise exponential process shifts abruptly from a youthful segment with very rapid increases in the mortality rate to a mature segment in which the mortality rate increases more gradually with aging. Notice, however, that the estimates of the other parameters of these models are not sensitive to the specification of the effect of age. This stability in the estimates increases our confidence in the reliability of these estimates.

The rapid initial rise in mortality rates with age followed by a relatively slow increase for more mature organizations might mean that a pure liability of aging explanation is not wholly adequate. It is difficult to argue that organizations are already suffering from the effects of obsolescence or senescence after only one or two years of operation. A possible alternative combines elements of the liabilities of adolescence and aging arguments. The initial increase in mortality rates could be due to the exhaustion of initial resources, as suggested by proponents of a liability of adolescence, while the slower increase in the risk of failure of mature organizations is due to senescence or obsolescence.<sup>20</sup>

As expected, size has a negative (and significant) effect on mortality rates—there has indeed been a liability of smallness for these organizations. Given our power-law specification of the relationship (see equation [4]), this means that mortality rates fell with organizational size at a decreasing rate.<sup>21</sup> A starting size of \$1,000 in assets is not unusual in our data. The implied ratio of the mortality rate of a small credit union ( $S = 1$ , measured in thousands of dollars) to one of moderate size ( $S = 100$ ), using the estimate from the second column in table 2 ( $\hat{\alpha} = -0.595$ ), is 15. That is, the predicted mortality rate of a very small credit union is 15 times higher than that of a moderate-sized organization. The ratio of predicted mortality rates of a union with assets of \$100,000 to one with assets of \$1 million is roughly four. (The ratio from  $S = 1$  to  $S = 1,000$  is thus roughly 60.) Given that many credit unions have been as small as \$1,000 and many have been much larger than \$1 million, size makes a very big difference: the life chances of a credit union improved greatly as it grew in size (but at a decreasing rate).

Because the effects of age and size on mortality rates are nonlinear, it might prove helpful to consider a plot of their combined effect (fig. 5).

<sup>20</sup> We are grateful to one of the anonymous reviewers for suggesting this argument.

<sup>21</sup> We tried piecewise exponential specifications and quadratic specifications of the effect of size on the mortality rate, and we found that the simpler monotonic specification fit nearly as well. That is, complicating the specification of the effect of size produces only trivially small improvements in the fit of the model. Moreover, these more complex specifications also yield monotonic relationships between size and the mortality rate.

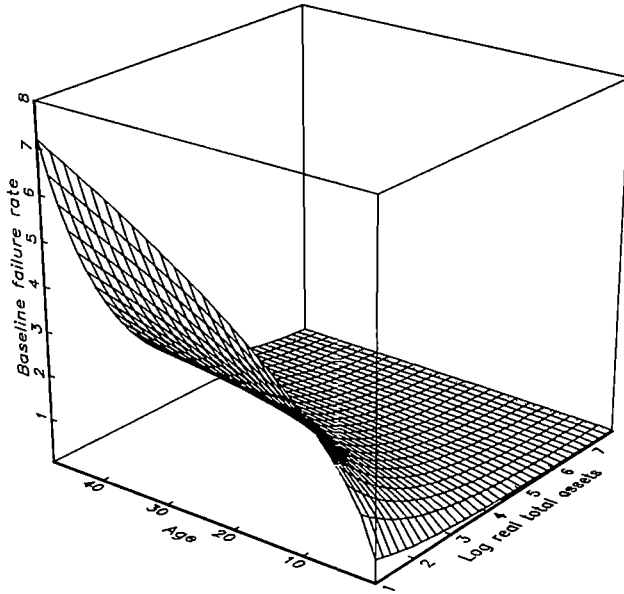


FIG. 5.—Age- and size-specific baseline mortality rates of credit unions in New York City, 1914–90.

The face of the cube corresponding to the smallest observed size shows a huge increase in mortality rates with aging. However, this effect drops off rapidly with increasing size. Thus, old, small organizations have exceptionally high mortality rates.

We conclude from this analysis that most prior research that found evidence of a liability of newness may have been seriously flawed by the failure to control for organizational size and age. The correlation between age and log(size) in our data averages .382: large organizations tend to be older. Thus, there is the possibility of a misleading finding of a liability of newness or adolescence.

Controlling for age-varying organizational size does not alter the commonly found pattern of nonmonotonic density dependence, according to the results in table 2. Comparison of the estimates in the first and second columns reveals that estimates of effects of density are insensitive to controls for size. In each column, contemporaneous density has a positive first-order effect and a negative second-order effect, as predicted. Each estimated effect is statistically significant. The estimated relationship between density and the mortality rate has the predicted U shape, even when we control for size differences. The mortality rate falls with increasing (contemporaneous) density until density equals 62 organizations. At

that level of density, the mortality rate multiplier is .17 (net of the effects of other variables in the model). That is, the average mortality rate at a density of 62 is less than one fifth as high as at a density of one organization. Further increases in density increase mortality rates. When the historical maximum density for New York City of 124 credit unions is reached, the multiplier equals .97. In other words, the mortality rate rises about sixfold as density rises from 62 to 124.

Density at founding has a positive effect on mortality rates, as predicted. This effect is not statistically significant when we use the piecewise exponential specification of the effect of age, but it is significant when we use the simpler Weibull model.

Passage of the Federal Credit Union Act, which increased the founding rate of credit unions in New York (Hannan et al. 1994), appears to have reduced their mortality rates. Mortality rates dropped sharply beginning in 1934, net of the effects of other covariates. The mortality rate of credit unions was on average about one-ninth as large in 1934 as during the preceding 20 years (because  $\exp[-2.2] \approx .11$ ). This large drop in rates of mortality was partly temporary, because the (nonsignificant) trend term is positive. The temporary character of the effect of the Federal Act for mortality rates of SCUs parallels a result of the impact on founding rates (Hannan et al. 1994).

Times of economic depression seriously impaired the life chances of credit unions. According to the estimated effect of the depression year dummy variable in table 2, the mortality rate rose about fourfold ( $\exp[1.3] \approx 3.7$ ) when the national economy fell into depression. Interest rates (more precisely, bond yields) also seem to have affected mortality rates. In models 2 and 3, the interest rate has a positive and significant effect, suggesting that rising interest rates were detrimental to the life chances of credit unions.

Our specification allows the effect of growth of FCUs on the mortality rate of SCUs to vary as a function of the ratio of the former to the latter in the state. This ratio has a negative and significant effect in table 2. (Indeed, this is the only significant effect of FCUs in this analysis.) We interpret the effect of the ratio as follows. When the number of FCUs is small, the ratio is small and the main effect of FCU density dominates. As FCU density grows compared with SCU density, the competitive effect eventually lessens. Such a pattern of effects could arise if the initial rise of FCUs mainly cut into the organizing space of the existing SCUs without providing any compensating gains in the institutional standing (legitimation) of the population of credit unions, defined broadly. But the eventual great success of the population of FCUs improved the life chances of all types of credit unions by reducing the marginal status of the organizational form.

# ANALYSIS OF GROWTH RATES

## Models

We explore the form and strength of the effect of size on growth rates using models with the form

$$\frac{S_{i,a+1}}{S_{ia}} = r_{ia} S_{ia}^{\omega-1} \exp(\epsilon_{i,a+1}); \quad (5a)$$

where

$$r_{ia} = \theta(a) \cdot \exp(\gamma_1 N_a + \gamma_2 N_a^2 + \gamma_3 N_{if} + x'_{ia} \pi), \quad (5b)$$

and  $\epsilon_{i,a+1}$  is a disturbance term.<sup>22</sup> The model builds on the idea that a population of organizations has an intrinsic growth rate,  $r_{ia}$ , which depends on organizational age, contemporaneous population density, density at founding, and the effects of covariates measuring variations in environmental conditions.

With this specification,  $\omega = 1$  means that Gibrat's law holds (conditional on age and the values of the covariates). If  $\omega < 1$ , then organizational growth rates decline with size;  $\omega > 1$  means that growth rates increase with size. Equation (5) also shows how to interpret the effects of covariates included in the growth rate,  $r_{ia}$ . Because we use a log-linear relationship between proportionate growth,  $S_{i,a+1}/S_{ia}$ , and covariates, the size of the effect of change in a covariate depends on organizational size as well as on the effect parameters.

Given the paucity of prior research on age and growth rates, it is particularly important to use a flexible functional form. Accordingly, we again rely on a piecewise exponential specification, as we used in analyzing age variation in mortality rates (eq. [2]). We also use the simple Weibull specification in equation (3).

Reasoning that mortality and growth are antipodal, we predict that the effects of density on growth rates have opposite signs from those on mortality rates. That is, we predict that the first-order effect of contemporaneous density ( $\gamma_1$ ) is positive and the second-order effect ( $\gamma_2$ ) is negative. We also consider founding density. Following the logic outlined above, we expect organizations founded at high density to have lower growth rates than those founded at low density (i.e., that  $\gamma_3$  is negative).

<sup>22</sup> We have specified the relationships between covariates and proportionate growth and between the random disturbance term and proportionate growth to be log-linear to accommodate the constraint that proportionate growth must be nonnegative.



### Estimation

Estimates of the parameters of the growth model were obtained from a data set that pools the yearly observations on each credit union. The five credit unions that failed during their first year cannot be included in this analysis of growth. At least two observations on an organization's size are needed to calculate a growth rate, and we do not have any information about size at the time of founding. We measured size as total assets throughout, with the dollar amounts corrected for inflation. These analyses involve regressions of an organization's size at age  $a + 1$  (denoted by  $S_{a+1}$ ) on its size at age  $a$  ( $S_a$ ) and other covariates (including age). Because we have a time series of such observations for each credit union, it seems reasonable to analyze these data by pooling each of these time series.

To simplify estimation, we use a log transform of the growth model in equation (5) and rearrange terms:

$$\ln(S_{i,a+1}) = \omega \ln(S_{ia}) + \ln \theta(a) + \gamma_1 N_a + \gamma_2 N_a^2 + \gamma_3 N_{if} + \mathbf{x}'_{ia} \pi + \epsilon_{i,a+1}.$$

The stochastic disturbances in this pooled cross-section time-series data structure are likely to be autocorrelated. Most of this autocorrelation appears to be due to the operation of persistent organization-specific effects. That is, the disturbances are correlated because stable features of individual organizations operate in each year of their lifetimes. We control for such autocorrelation by using a standard method: the least squares constants (LSC) estimator (see Tuma and Hannon 1984). This estimator depends on the assumption that the structure of disturbances can be decomposed into a fixed effect for each organization and a random disturbance that meets the classical regression assumptions. In our context, this means assuming that the growth model has the following stochastic structure:

$$\begin{aligned} \ln(S_{i,a+1}) = & \omega \ln(S_{ia}) + \ln \theta(a) + \gamma_1 N_a + \gamma_2 N_a^2 \\ & + \gamma_3 N_{if} + \mathbf{x}'_{ia} \pi + \epsilon_{i,a+1}; \end{aligned} \quad (6)$$

where

$$\epsilon_{i,a+1} = \xi_i + \nu_{i,a+1},$$

and  $\theta(a)$  is the piecewise constant specification of the effect of age. The disturbance term is the sum of an age-invariant organization-specific effect,  $\xi_i$ , and a random disturbance term,  $\nu_{i,a+1}$ , which is assumed to be uncorrelated with the observed covariates, homoscedastic, and serially uncorrelated. Under these conditions, models in the form of equation (6) can be estimated meaningfully by applying the ordinary least squares (OLS) method to the within-organization variation (with each observa-

tion rescaled by subtracting the relevant organization's mean over its lifetime). A potential drawback of this estimator is that estimates of  $\omega$  are biased downward (Hsiao 1986). We are, however, unaware of alternatives that are less problematic than the fixed-effect estimator. Nevertheless, it is important to bear this bias in mind when interpreting estimates of this parameter.

Use of this fixed-effect estimator precludes estimation of the effects of characteristics that do not vary over organizational lifetimes. This limitation poses a problem for our investigation, because a key argument concerns the effects of density at founding, which is fixed over an organization's lifetime. We therefore use a two-step procedure to estimate the effect of density at founding (Tuma and Hannan 1984). After conducting LSC estimation, we use the estimated autoregression parameter ( $\hat{\omega}$ ) and form a new dependent variable:

$$Y_{i,a+1} = \ln(S_{i,a+1}) - \hat{\omega}\ln(S_{ia}),$$

and we regress  $Y_{i,a+1}$  on density at founding, age, and other covariates, using OLS.

## Results

Gibrat's law does not fare well here. The estimated effect of lagged log-size falls substantially below unity (the value required for Gibrat's law), and the departure from unity is large compared with the SE.<sup>23</sup> Our estimates imply that the differences in average growth rates of large and small credit unions have been considerable. The estimated effect of size ( $\omega = 0.884$ ) means that, on average and conditional on the values of the other covariates,

$$\frac{S_{a+1}}{S_a} = S_a^{0.884-1} = S_a^{-0.116}.$$

Given the actual distribution of starting sizes (in thousands of dollars), a useful point of comparison is  $S = 1$ . A credit union with  $S = 100$  has an average proportional growth rate slightly less than half (.45) as high, and one with  $S = 100,000$  has an average growth rate about one-third as high. Thus, size accounts for twofold or threefold differences in growth rates over the range of historically relevant values.

Again the evidence is consistent with obsolescence or senescence: growth rates of individual credit unions decline with age. According to the estimates of the piecewise exponential specification in columns 1 and

<sup>23</sup> Recall, however, that the estimate of this parameter is biased downward. Caution should therefore be exercised in interpreting this result.

3 of table 3, growth rates drop sharply after the first few years of the organizations' existence. As in the previous analysis, we also replaced the piecewise specification of age dependence with a Weibull-like model.<sup>24</sup> This simpler specification, whose estimates appear in columns 2 and 4 in table 3, fits nearly as well as the piecewise specification over most of the age range.

As we suggested above, the tendency for growth rates to decline with age accords with the view that older organizations are either less suited to their environments or slow to act. However, the fact that the drop in growth rates with age occurs within the young age range suggests another possible explanation. The alternative features the social network character of credit unions.

Barron (1992) has argued that credit unions recruit members via the social network ties of their members. In this regard, credit unions resemble other membership organizations, which rely heavily on this form of recruitment (McPherson 1983; McPherson, Popielarz, and Drobnic 1992), and many businesses that obtain customers and clients via word of mouth. As with these organizations, the pool of potential members is limited. In the case of businesses and membership organizations, pools of potential customers or members are often demarcated by social boundaries—for example, people of a particular age-group are more likely to buy particular products, while most members of tennis clubs come from the same social class. Membership pools for credit unions have historically been defined explicitly by the requirement that members share a common bond, though in recent years this requirement has become less stringent. Given this limitation of potential membership, the rate of recruitment of new members should decline over time as the proportion of those sharing the common bond who have not already joined declines.

Figure 6 shows how age and size combine to affect growth rates. Young organizations of any size have high growth rates, but the advantage of youth lasts only a few years. Because the effect of age dominates the effect of size, old organizations of very different sizes have similar growth rates.

Recall that three prior tests of the theory of density dependence in the context of organizational growth did not yield the predicted results. Our analysis, however, does yield the predicted nonmonotonic pattern of effects. The first-order effect of density is positive and significant, and the second-order effect is negative and significant. Thus, these results agree with the hypothesis that density-dependent legitimation and competition have opposite effects on rates of growth and mortality.

<sup>24</sup> We also estimated models including higher-order effects of age, but these showed no evidence of nonmonotonicity, presumably because any increase in growth rates at older ages is small compared to the decline that takes place in the first 10 years.

TABLE 3

POOLED CROSS-SECTION TIME-SERIES ESTIMATES OF A MODEL OF CREDIT UNION  
GROWTH IN NEW YORK CITY, 1914-90

	MODEL			
	1 <sup>a</sup>	2 <sup>a</sup>	3 <sup>b</sup>	4 <sup>b</sup>
Intercept .....			.663* (.149)	.775* (.143)
Lagged log (size) .....	.884* (.008)	.893* (.008)	.884 <sup>c</sup>	.893 <sup>d</sup>
Local density .....	.008† (.002)	.013† (.002)	.010† (.003)	.010† (.003)
Local density squared (in thousands) .....	-.050† (.010)	-.076† (.010)	-.056† (.018)	-.061† (.018)
Founding density (in hundreds) .....			-.060† (.031)	-.166† (.030)
Log (nonlocal density) .....	-.054* (.009)	-.022* (.009)	-.053* (.012)	-.042* (.012)
Period 2 (1934-90) .....	.055 (.031)	.092* (.031)	.055 (.042)	.074 (.042)
Period 2 × trend .....	-.007* (.002)	.004 (.002)	-.002 (.007)	.001 (.007)
Bond yields .....	.023* (.008)	.020* (.008)	.033* (.009)	.032* (.009)
Density of FCUs in New York State outside New York City (in hundreds) .....	.107* (.022)	.116* (.022)	.076 (.070)	.087 (.070)
Density of FCUs in New York City (in hundreds) .....	-.115* (.032)	-.105* (.031)	-.084 (.069)	-.080 (.069)
Age (in years):				
0-1 .....	.673 (.075)		.408 (.082)	
1-2 .....	.216 (.071)		-.011 (.064)	
2-3 .....	.107 (.070)		-.101 (.086)	
3-5 .....	.021 (.066)		-.148 (.059)	
5-10 .....	-.056 (.060)		-.180 (.053)	
10-20 .....	-.069 (.052)		-.131 (.047)	
20-40 .....	-.050 (.035)		-.080 (.036)	
Log (age) .....		-.277* (.013)		-.116* (.017)
R <sup>2</sup> .....	.952	.952	.100	.074

NOTE.—Nos. in parentheses are SEs. Estimates are not shown for age dummies, as we are not testing the hypothesis that these coefficients are equal to zero. *N* (observations) = 4,852.

<sup>a</sup> LSC estimates.

<sup>b</sup> OLS estimates using transformed dependent variable—see text for details.

<sup>c</sup> Estimate from col. 1.

<sup>d</sup> Estimate from col. 2.

\*  $P < .05$  (two-tailed test).

†  $P < .05$  (one-tailed test).

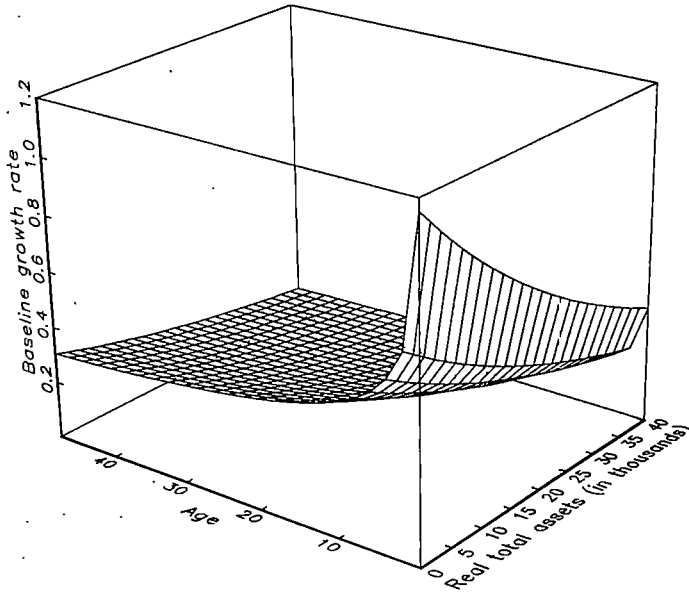


FIG. 6.—Age- and size-specific baseline proportional growth rates of credit unions in New York City, 1914–90.

The effect of density on growth rates is strikingly similar to the effect of density on the founding rate in this population (reported by Hannan et al. 1994). The turning point in the relationship of density and the growth rate (the point at which the multiplier of the density effect is at its maximum) occurs at  $N = 54$  for the founding rate and at  $N = 85$  for growth rates. (The historic maximum of density is 124.) Moreover, the impact of density on the two rates at these maxima are roughly the same. For founding rates, the multiplier at the maximum is twice that at zero density. For growth rates, the estimates in table 3 imply that the multiplier of the rate is 1.7 times higher than at zero density. This impact is roughly as strong as those attributable to aging and growth.

Columns 3 and 4 in table 3 provide the results of the second stage of the estimation, in which we estimate the effect of density at founding. This effect is negative and significant, as predicted. Credit unions founded during times of high population density had permanently lowered growth rates, as arguments about tight niche packing and resource scarcity imply. Over the range of density observed (0–124), the estimated effect implies an 18% drop in average growth rates. That is, average growth rates of credit unions founded at times of peak density are 18% lower than those founded at minimum density. Although this effect might

seem small, it is important to realize that it is compounded yearly over lifetimes. An 18% differential in growth rates induces large differences in size over even moderately long lifetimes.

The density of FCUs has a negative (but nonsignificant effect), and the density of FCUs outside the city has a positive, nonsignificant effect. Thus these results hint at a competitive relationship between state and federal credit unions within the city. Finally, only one of the economic conditions had a notable effect on growth rates, the bond yield. In general, high interest rates favored the growth of credit unions.

## CONCLUSIONS

We began by contrasting two visions of the organizational world: either large organizations successfully wield increasing power in defense of their dominant positions, or organizations become increasingly vulnerable to challenges by innovative newcomers. It is obvious from our estimates that aging does not protect organizations from failure. On the contrary, we find clear and consistent evidence for the existence of a liability of aging. When the size of the organization is controlled, two different specifications of the effect of age tell that older organizations fail at a faster rate than their younger competitors. Lacking any direct evidence as to the mechanisms by which aging leads to a higher failure rate, we are unable to say whether this effect reflects a liability of obsolescence, a liability of senescence, or both. We also do not know whether different mechanisms operate at different stages in an organization's development. But our results do lend credence to the view that older organizations are vulnerable to competition from younger rivals.

The evidence from this and other studies may now be strong enough for the liability of newness hypothesis to be finally laid to rest. It is surely clear that organizational mortality rates do not typically decline with age, once relevant conditions, such as size, have been considered. This having been established, the way is clear for further research into the underlying mechanisms: obsolescence, senescence, or some other, yet to be suggested, process.

We regard the comparative study of the effects of aging on mortality rates (net of the effects of size) as a promising way to clarify the sources of positive age dependence. Organizational populations have clearly differed in the rate at which environmental change has rendered core competencies obsolete. Consider the case in which the competencies of organizations are tied closely to their core technologies. At one extreme, industries such as microcomputer manufacturers have seen a rapid succession of what Tushman and Andersen (1986) call "competence destroy-

ing" technical changes (Anderson 1995). At the other extreme, industries such as beer brewing have been characterized by extraordinary stability in the core technology (Swaminathan and Carroll 1995). Suppose that a group of researchers obtained appropriate life history and size data on populations toward the extremes of this continuum and estimated age dependence. If positive aging is the rule and it reflects purely a tendency for aging to signal obsolescence, then the effect of aging ought to be strong in populations such as microcomputer manufacture and weak or nonexistent in populations such as brewing firms. If, on the other hand, age dependence is positive and as strong for populations facing placid technical environments as those facing a continuing series of competence-destroying changes, then senescence becomes a more plausible story.

Parallel comparisons can be done within the histories of particular populations. The histories of particular populations are marked by periods of fast and slow technical change. In the automobile industry, the rate of technical change was high between the start of the world industry during the 1880s until roughly 1920 and again from the 1970s to the present; the intervening 50 years saw extraordinary stability in the industry's core technology. Checking whether the effects of aging vary by period for such cases can then also shed light on the underlying mechanism.

In the case we have considered here, the core technology is mainly social—it depends on the utilization of network ties among members and potential members. Such social technologies also vary in their stability over time among populations and over time for the same population. One extreme case would be populations of lobbyist organizations, whose core competence is network ties to powerful officeholders, in countries with unstable politics. Perhaps the other extreme is the case of investment banks in the United States, in which the system of relevant network ties is a self-reproducing status structure (Podolny 1993, 1995). According to our reasoning, investment banks would be subject to processes of senescence (if they exist) but only weakly, at most, subject to processes of obsolescence.

Where do credit unions fall in these terms? We have noted that the population of SCUs faced a discontinuous change in their competitive regime in 1934 and that deregulation of financial services during the 1980s has changed the competitive situation again. Yet the core technology of operating a credit union appears to have changed modestly compared to those of many other organizational populations. Thus it is tempting to conclude that our finding of positive age dependence favors a senescence explanation, because there was little time for obsolescence to have occurred. Although this might be the correct interpretation, it is

premature to place much stock in it on the evidence from a single study. What is now needed, we suggest, are comparative assessments of the kind we have sketched.

We have also learned that larger organizations grow more slowly. This result, at odds with Gibrat's law, supports the view that organizations get less efficient as they get older and larger. These findings suggest that larger organizations are vulnerable to increasing competition from faster-growing, smaller organizations. The combination of these results, then, suggests that older and larger organizations cannot completely dominate the dynamics of the populations of which they are members.

Dominant organizations do have one major advantage, however. We found evidence of a strong liability of smallness—large organizations have slower growth rates, but they also have significantly lower rates of failure. Thus, comparatively small and young organizations might grow faster than larger organizations. However, the liability of smallness might mean that they do not survive to challenge the dominant position of existing large organizations. There is also some evidence that older organizations grow faster, if not than very young organizations, at least than adolescent competitors. This nonmonotonic pattern of age effects on growth rates might be specific to this population. Large credit unions have, in recent years, been able to offer to members an increasing range of financial services that are beyond the capacities of smaller organizations. Further research will be needed to investigate both the generalizability of this and our other findings and the underlying mechanisms that produced these age and size effects.

Apart from the effects of individual characteristics of organizations, such as age and size, on failure and growth rates, we have also found evidence that at least one characteristic of the population, its density, has an effect on the growth of individual organizations within the population. These estimates support the model of density dependence, which has been applied often to organizational founding and failure rates. Additional research is needed to understand the impact of other population-level processes, such as concentration, on these rates. This is important since the presence of a trend toward higher failure rates over time due to a process of industry concentration might produce a liability-of-aging effect if the mean age of a population is also increasing over time.

So we now have models of all three of the important processes that determine how an organizational population evolves over time. The implications of these models, however, have yet to be ascertained. Clearly there is a complex interplay among the three vital rates, each depending on population density, while failure and growth rates also depend on the size and age of individual organizations. In future research we intend to integrate our models of these three processes to gain a comprehensive



understanding of how organization dynamics shape populations of organizations over time.

Unfortunately, at this time we are unable to analyze mathematically the implications of the models of the three separate rates for the evolution of population density and size distributions. Performing such an analysis would be very complex for two reasons. First, the three rates operate at different levels of analysis. The founding rate is a population-level property—individual organizations do not have founding rates. On the other hand, failure and growth rates are organization-level variables—it is individual organizations that fail and grow. Second, unlike the related bioecological models, the magnitudes of the effects of competition and legitimation are not constrained to be the same across models of founding, failure, and growth. Therefore, we intend to analyze the joint implications of our models of these rates by means of computer simulations.

The simulation approach has been successfully adopted by Hannan and Carroll (1992). They used simulations to understand the implications of models of founding and failure for the evolution of population density. Adding a process of organizational growth and decline to the simulation model will allow us to investigate the role of organizational size in shaping population density trajectories (via its effect on organizational mortality). Furthermore, for the first time we can take a detailed look at how processes of legitimation, competition, and age and size dependence affect the evolution of organizational size distributions.

Complementary to computer simulation modeling would be the development of simultaneous models of some or all of the processes of founding, failure, and growth. Since the latter two both operate at the level of individual organizations, the best chance of success would appear to lie with the development of a simultaneous model of these processes. Although such a model would likely face formidable problems of estimation, it could also be a fruitful direction for future research.

## APPENDIX

This appendix tells how we obtained maximum likelihood estimates of the mortality models. Values of covariates vary over the lifetimes of the organizations studied. Consequently, we use the standard approach of spell splitting. Because the values of the covariates in our data set change each year, organizational lifetimes are split into year-long subspells. Each of these subspells is right censored if the organization did not fail during that year.

We construct the likelihood for each organization's observed history as follows. Let  $t = 1, 2, \dots$  denote calendar years and consider the  $i$ th organization, founded during  $t_i$ , where  $t_i$  denotes the calendar year in

which the organization starts. The organization's age at the end of each calendar year is also known precisely. Call these ages  $\delta_i$ ,  $\delta_i + 1$ ,  $\delta_i + 2$ , and so on. However, we do not know the exact time at which an organization fails. The *Annual Report of the Superintendent of Banks* (New York State Banking Department 1914–90) permits us to identify only the year within which mortality occurs. Suppose that the organization fails sometime during year  $t_s + l$ . That is, we know the organization is operating during year  $t_s + l$ , but it has ended by  $t_s + l + 1$ . Therefore, the joint conditional probability that the organization in our example still operates at age  $\delta_i + 1$  given that it was operating at age  $\delta_i$  and so on is given by:

$$\exp \left[ - \int_0^{\delta_i} \mu(a) da - \int_{\delta_i}^{\delta_i+1} \mu(a) da - \int_{\delta_i+1}^{\delta_i+2} \mu(a) da - \dots \right. \\ \left. - \int_{\delta_i+l-1}^{\delta_i+l} \mu(a) da \right], \quad (7)$$

where  $\mu(a)$  is the hazard rate (that is, the rate of organizational mortality) at age  $a$ . To obtain the complete likelihood for this organizational lifetime, we also need to find the probability that the organization had failed by age  $\delta_i + l + 1$  given that it was operating at age  $\delta_i + l$ . This probability is

$$1 - \exp \left[ - \int_{\delta_i+l}^{\delta_i+l+1} \mu(a) da \right]. \quad (8)$$

Thus, the likelihood for the complete lifetime of this organization is just the product of equations (7) and (8).

To use this method to obtain maximum-likelihood estimates of the effects of covariates on the organizational mortality rate, one has to select a functional form for  $\mu(a)$ . As noted in the text, we used both the Weibull model and a piecewise constant specification.

## REFERENCES

- Aldrich, Howard E., and Peter V. Marsden. 1988. "Environments and Organizations." Pp. 361–92 in *Handbook of Sociology*, edited by Neil J. Smelser. Newbury Park, Calif.: Sage.
- Aldrich, Howard E., Udo Staber, Catherine Zimmer, and John J. Beggs. 1990. "Minimalism and Mortality: Patterns of Disbandings among American Trade Associations in the 20th Century." Pp. 21–52 in *Organizational Evolution: New Directions*, edited by Jitendra V. Singh. Newbury Park, Calif.: Sage.
- Amburgey, Terry L., Tina Dacin, and Dawn Kelley. 1994. "Disruptive Selection and

- Population Segmentation: Interpopulation Competition as a Segregating Process." Pp. 240–54 in *Evolutionary Dynamics of Organizations*, edited by Joel A. C. Baum and Jitendra V. Singh. New York: Oxford University Press.
- Anderson, Philip C. 1995. "Microcomputer Manufacturers." In *Organizations in Industry: Strategy, Structure, and Selection*, edited by Glenn R. Carroll and Michael T. Hannan. New York: Oxford University Press. In press.
- Banaszak-Holl, Jane. 1991. "Incorporating Organizational Growth into Models of Organizational Dynamics: Manhattan Banks, 1791–1980." Ph.D. dissertation. Cornell University, Department of Sociology.
- Barnett, William P. 1990. "The Organizational Ecology of a Technological System." *Administrative Science Quarterly* 35:31–60.
- . 1994. "The Liability of Collective Action: Growth and Change among Early Telephone Companies." Pp. 337–54 in *Evolutionary Dynamics of Organizations*, edited by Joel A. C. Baum and Jitendra V. Singh. New York: Oxford University Press.
- Barnett, William P., and Terry L. Amburgey. 1990. "Do Larger Organizations Generate Stronger Competition?" Pp. 78–102 in *Organizational Evolution: New Directions*, edited by Jitendra V. Singh. Newbury Park, Calif.: Sage.
- Barron, David N. 1992. "An Ecological Analysis of the Dynamics of Financial Institutions in New York State, 1914–1934." Ph.D. dissertation. Cornell University, Department of Sociology.
- . 1995. "Credit Unions." In *Organizations in Industry: Strategy, Structure, and Selection*, edited by Glenn R. Carroll and Michael T. Hannan. New York: Oxford University Press. In press.
- Baum, Joel A. C., and Stephen J. Mezias. 1992. "Localized Competition and Organizational Failure in the Manhattan Hotel Industry, 1898–1990." *Administrative Science Quarterly* 37:580–604.
- Baum, Joel A. C., and Christine Oliver. 1991. "Institutional Linkages and Organizational Mortality." *Administrative Science Quarterly* 36:187–218.
- Blau, Peter M., and W. Richard Scott. 1962. *Formal Organizations*. San Francisco: Chandler.
- Brüderl, Josef, and Rudolph Schüssler. 1990. "Organizational Mortality: The Liabilities of Newness and Adolescence." *Administrative Science Quarterly* 35:530–37.
- Carroll, Glenn R. 1983. "A Stochastic Model of Organizational Mortality: Review and Reanalysis." *Social Science Research* 12:303–29.
- Carroll, Glenn R., and Michael T. Hannan. 1989. "Density Delay in the Evolution of Organizational Populations: A Model and Five Empirical Tests." *Administrative Science Quarterly* 34:411–30.
- Carroll, Glenn R., and Yanchung Paul Huo. 1988. "Organizational and Electoral Paradoxes of the Knights of Labor." Pp. 175–94 in *Ecological Models of Organizations*, edited by Glenn R. Carroll. Cambridge, Mass.: Ballinger.
- Carroll, Glenn R., and Anand Swaminathan. 1992. "The Organizational Ecology of Strategic Groups in the American Brewing Industry from 1975 to 1990." *Industrial and Corporate Change* 1:65–97.
- Chesher, A. 1979. "Testing the Law of Proportionate Effect." *Journal of Industrial Economics* 27:403–11.
- Cox, D. R., and D. Oakes. 1984. *Analysis of Survival Data*. London: Chapman & Hall.
- Delacroix, Jacques, and Anand Swaminathan. 1991. "Cosmetic, Speculative, and Adaptive Organizational Change in the Wine Industry: A Longitudinal Study." *Administrative Science Quarterly* 36:631–61.
- Delacroix, Jacques, Anand Swaminathan, and Michael E. Solt. 1989. "Density Dependence versus Population Dynamics: An Ecological Study of Failings in the California Wine Industry." *American Sociological Review* 54:245–62.

- Dunne, Timothy, Mark J. Roberts, and Larry Samuelson. 1989. "The Growth and Failure of U.S. Manufacturing Plants." *Quarterly Journal of Economics* 104: 671-98.
- Evans, David S. 1987a. "The Relationship between Organization Growth, Size, and Age: Estimates for 100 Manufacturing Industries." *Journal of Industrial Economics* 35:567-81.
- . 1987b. "Tests of Alternative Theories of Firm Growth." *Journal of Political Economy* 95:657-74.
- Fichman, Mark, and Daniel A. Levinthal. 1991. "Honeymoons and the Liability of Adolescence: A New Perspective on Duration Dependence in Social and Organizational Relationships." *Academy of Management Review* 16:442-68.
- Freeman, John. 1990. "Ecological Analysis of Semiconductor Firm Mortality." Pp. 53-77 in *Organizational Evolution: New Directions*, edited by Jitendra V. Singh. Newbury Park, Calif.: Sage.
- Freeman, John, Glenn R. Carroll, and Michael T. Hannan. 1983. "The Liability of Newness: Age Dependence in Organizational Death Rates." *American Sociological Review* 48:692-710.
- Gibrat, Robert. 1931. *Les inégalités économiques*. Paris: Sirey.
- Hall, Bronwyn. 1987. "The Relationship between Firm Size and Firm Growth in the U.S. Manufacturing Sector." *Journal of Industrial Economics* 35:583-606.
- Hannan, Michael T. 1989a. "Competitive and Institutional Processes in Organizational Ecology." Pp. 388-402 in *Sociological Theories in Progress: New Formulations*, edited by Joseph Berger, Morris Zelditch, Jr., and Bo Andersen. Newbury Park, Calif.: Sage.
- . 1989b. "Age Dependence in the Mortality of National Labor Unions: Comparisons of Parametric Models." *Journal of Mathematical Sociology* 15:1-30.
- Hannan, Michael T., and Glenn R. Carroll. 1992. *Dynamics of Organizational Populations: Density, Legitimation, and Competition*. New York: Oxford University Press.
- Hannan, Michael T., and John Freeman. 1977. "The Population Ecology of Organizations." *American Journal of Sociology* 82:929-64.
- . 1984. "Structural Inertia and Organizational Change." *American Sociological Review* 49:149-64.
- . 1989. *Organizational Ecology*. Cambridge, Mass.: Harvard University Press.
- Hannan, Michael T., and James Ranger-Moore. 1990. "The Ecology of Organizational Size Distributions: A Microsimulation Approach." *Journal of Mathematical Sociology* 15:67-90.
- Hannan, Michael T., James Ranger-Moore, and Jane Banaszak-Holl. 1990. "Competition and the Evolution of Organizational Size Distributions." Pp. 246-68 in *Organizational Evolution: New Directions*, edited by Jitendra V. Singh. Newbury Park, Calif.: Sage.
- Hannan, Michael T., Elizabeth West, and David N. Barron. 1994. *Dynamics of Credit Unions in New York*. Madison, Wis.: Filene Center and Center for Credit Union Research.
- Haveman, Heather A. 1992. "Between a Rock and a Hard Place: Organizational Change and Performance under Conditions of Fundamental Environmental Transformation." *Administrative Science Quarterly* 37:48-75.
- Hsiao, Cheng. 1986. *Analysis of Panel Data*. New York: Cambridge University Press.
- Kapteyn, J. C. 1903. *Skew Frequency Curves in Biology and Statistics*. Groningen: Noordhoff.
- Kumar, M. S. 1985. "Growth, Acquisition Activity and Organization Size: Evidence from the United Kingdom." *Journal of Industrial Economics* 33:327-38.
- Levinthal, Daniel. 1991. "Random Walks and Organizational Mortality." *Administrative Science Quarterly* 36:397-420.

- McPherson, J. Miller. 1983. "An Ecology of Affiliation." *American Sociological Review* 48:519–35.
- McPherson, J. Miller, Pamela Popielarz, and Sonja Drobnic. 1992. "Social Networks and Organizational Dynamics." *American Sociological Review* 57:153–70.
- Mills, C. Wright. 1956. *The Power Elite*. New York: Oxford University Press.
- Mintz, Beth, and Michael Schwartz. 1985. *The Power Structure of American Business*. Chicago: University of Chicago Press.
- Moody, J. Carroll, and Gilbert C. Fite. 1984. *The Credit Union Movement: Origins and Development, 1890–1980*, 2d ed. Dubuque, Iowa: Kendal/Hunt Publishing.
- Navratil, Frank J. 1981. "An Aggregate Model of the Credit Union Industry." *Journal of Finance* 36:539–49.
- New York State Banking Department. 1914–90. *Annual Report of the Superintendent of Banks*. Albany: New York State Banking Department.
- Olson, Mancur. 1982. *Rise and Decline of Nations: Economic Growth, Stagflation, and Social Rigidities*. New Haven, Conn.: Yale University Press.
- Pearce, Douglas K. 1984. "Recent Developments in the Credit Union Industry." *Economic Review, Federal Reserve Bank of Kansas City* 69:3–19.
- Péli, Gábor, Jeroen Bruggeman, Michael Maus, and Breannán Ó Nulláin. 1994. "A Logical Approach to Organizational Ecology: Formalizing the Inertia-Fragment in First-order Logic." *American Sociological Review*. In press.
- Podolny, Joel. 1993. "A Status-based Model of Market Competition." *American Journal of Sociology* 98:829–72.
- . 1995. "Investment Banks." In *Organizations in Industry: Strategy, Structure, and Selection*, edited by Glenn R. Carroll and Michael T. Hannan. New York: Oxford University Press. In press.
- Ranger-Moore, James. 1990. "Ecological Dynamics and Size Distributions in the Life Insurance Industry." Ph.D. dissertation. Cornell University, Department of Sociology.
- . 1991. "If Bigger Is Better, Is Older Wiser?" Paper presented at the annual meetings of the American Sociological Association, Cincinnati.
- Schumpeter, Joseph A. 1947. *Capitalism, Socialism and Democracy*. New York: Harper.
- Singh, Jitendra V., and Charles J. Lumsden. 1990. "Theory and Research in Organizational Ecology." *Annual Review of Sociology* 16:161–95.
- Stinchcombe, Arthur L. 1965. "Social Structure and Organizations." Pp. 142–93 in *Handbook of Organizations*, edited by James G. March. Chicago: Rand McNally.
- Swaminathan, Anand, and Glenn R. Carroll. 1995. "Beer Brewers." In *Organizations in Industry: Strategy, Structure, and Selection*, edited by Glenn R. Carroll and Michael T. Hannan. New York: Oxford University Press.
- Tuma, Nancy Brandon, and Michael T. Hannan. 1984. *Social Dynamics: Models and Methods*. New York: Academic Press.
- Tushman, Michael, and Philip C. Anderson. 1986. "Technological Discontinuities and Organizational Environments." *Administrative Science Quarterly* 31:439–65.
- Useem, Michael. 1984. *The Inner Circle*. New York: Oxford University Press.
- Wholey, Douglas R., Jon B. Christianson, and Susan M. Sanchez. 1992. "Organizational Size and Failure among Health Maintenance Organizations." *American Sociological Review* 57:829–42.
- Winter, Sidney. 1990. "Survival, Selection, and Inheritance in Evolutionary Theories of Organizations." Pp. 269–97 in *Organizational Evolution: New Directions*, edited by Jitendra V. Singh. Newbury Park, Calif.: Sage.

# Assortative Mating by Cultural and Economic Occupational Status<sup>1</sup>

Matthijs Kalmijn  
Utrecht University

This study examines two micro-level hypotheses about status homogamy: (1) the *cultural matching hypothesis* (people prefer to marry someone of similar cultural status) and (2) the *economic competition hypothesis* (people prefer to marry someone of high economic status). Detailed occupations of newlyweds in the 1970 and 1980 censuses are analyzed. Scales of cultural and economic occupational status are developed, and log-linear models of scaled association are used to analyze 70 × 70 occupational marriage tables. It is found that assortative mating by cultural status is more important than assortative mating by economic status, the economic dimension of status homogamy is more important when people marry late, and economic status homogamy has increased between 1970 and 1980 at the expense of cultural status homogamy.

Whether measured by social class, occupational prestige, or level of education, there is quite a strong resemblance between the status positions of newlyweds (Hout 1982; Jacobs and Furstenberg 1986; Kalmijn 1991; Mare 1991). Assortative mating by status, or status homogamy for short, is usually explained in terms of the opportunities people have to meet someone of the same status, the involvement of "third parties" such as parents and friends in the selection process, and the preference of individuals who are choosing one another (Kalmijn 1991). Past research on status homogamy has been marked by debate about the exact nature of these individual preferences. Two hypotheses have been suggested: the *matching hypothesis*, which argues that people prefer to marry someone of similar status (Kerckhoff and Davis 1962; DiMaggio and Mohr 1985), and the *competition hypothesis*, which argues that people prefer to marry someone of high status (Elder 1969; Mare 1991). At the surface, the two

<sup>1</sup> This research is supported by a grant from the University Committee on Research in the Humanities and Social Sciences at Princeton University. I thank Paul DiMaggio, Michèle Lamont, and the *AJS* reviewers for valuable comments. Correspondence may be sent to Matthijs Kalmijn, Department of Sociology, Heidelberglaan 2, 3584 CS Utrecht, The Netherlands.

types of preferences lead to the same pattern of assortative mating. When people prefer someone of high status, high-status candidates are most likely to receive marriage proposals; proposers with high status are in the best position of having their offer accepted. Hence, the most attractive spouses end up choosing among themselves, while the least attractive spouses are essentially "stuck" with one another. Both matching and competition thus lead to a pattern of status similarity within marriage.

If people's status positions are examined more closely, however, the two hypotheses have different implications. The matching hypothesis is based on the notion that similarity in long-term relationships ensures a common basis of conversation, provides confirmation of one's norms and values, and reduces friction within marriage that may arise from dissimilarity in tastes. Hence, this hypothesis is largely concerned with the cultural aspects of a person's status position. The competition hypothesis, in contrast, is based on the notion that the choice of a spouse is governed by the benefits of sharing the economic resources a partner brings to the marriage. In this scenario, the marriage market is governed by competition for economic resources. The question of whether matching or competition explains status homogamy can thus be answered in part by disentangling the cultural and economic dimensions of status homogamy.

In this study, I test the two hypotheses by examining the detailed occupations of recently married husbands and wives in the 1970 and 1980 censuses. Inspired by Bourdieu's (1979) work on cultural capital and stratification in France, I use occupations to divide status characteristics into an economic dimension and a cultural dimension. Earlier European studies have shown that these dimensions are imperfectly correlated (De Graaf, Ganzeboom, and Kalmijn 1989). Occupations such as managers of manufacturing firms and financial sales representatives, for example, have high economic status but relatively low cultural status, whereas occupations like teachers and artists have high cultural status but low economic status. Because the occupational structure can be characterized as a two-dimensional hierarchy, detailed occupations provide an important—though certainly not exclusive—means by which cultural and economic factors in marriage choice can be separated empirically.

I focus on occupations for two reasons. First, occupations provide more diverse kinds of information to the analyst of marriage patterns than do general indicators of status like education and socioeconomic status. While occupational homogamy has been studied extensively in the past, most authors focus on only four or five occupational groups (see, e.g., Hunt 1940; Centers 1949; Hope 1972; Hout 1982). These analyses provide important information on the major class divisions in society, but ignore a large amount of variability within groups. My study is

an improvement over previous analyses in that I focus on occupational selection in detail (marriage tables of 70 rows and columns). Second, it is difficult to find direct measures of both spouses' cultural and economic characteristics at the time of marriage. DiMaggio and Mohr (1985) have shown that familiarity with high culture during high school is positively related to the education of the spouse one eventually marries. While their study is an innovative attempt to assess how cultural capital affects spouse selection, their conclusions are tentative because measures of spouses' cultural characteristics were unavailable. Other studies examined data on both husbands' and wives' participation in high culture, but focused on existing marriages rather than on newlyweds (De Graaf 1991). While such studies have the advantage of analyzing both sides of the marriage, they cannot distinguish between partner selection on the one hand and adaptive socialization or spousal influence during marriage on the other. Under these conditions, occupations provide a suitable alternative. Census data have information on both spouses' occupations, and by limiting the sample to newlyweds we can examine their occupations close to the time of marriage.

The theoretical concern of my study lies in the way status boundaries in society are formed. Researchers in this field have traditionally followed the stratification literature by arguing that high correlations between the status positions of spouses are evidence of rigid stratification systems much in the same way that high correlations between fathers' and sons' statuses reveal a lack of mobility (Hout 1982; Jones 1987; Ultee and Luijkx 1990). This interpretation implicitly assumes that the marriage market is governed by competition for scarce resources. Put differently, homogamy prevails because lower-status groups are denied the desired access to the intimate social circles of higher-status groups. If the choice of a spouse is driven by a tendency to seek cultural similarity, however, lower-status groups will be endogamous, not so much because they are denied access to higher groups, but primarily because they do not seek access to these groups in the first place (DiMaggio and Mohr 1985). In more general terms, marriage selection based on economic competition suggests that status-group closure in marriage is evidence of vertical exclusion, whereas selection based on cultural matching suggests that status-group closure is evidence of what has been called "self-elimination" (Lamont and Lareau 1988; Lamont 1992). Although direct evidence on the formation of status boundaries is difficult to obtain, studying assortative mating by cultural and economic status provides a first step in this direction.<sup>2</sup>

<sup>2</sup> Many years ago, E. O. Laumann (1966) raised a similar question in his study of social stratification in the Boston metropolitan area. Using subjective data on social distance and objective data on occupations, he found more support for the competition



## THEORETICAL BACKGROUND AND HYPOTHESES

Both sociologists and economists have traditionally seen the family as a unit that produces status, economic well-being, and offspring (Edwards 1968; Becker 1981). Sociologists argue more explicitly that the family also produces what can be called "relational goods," such as social confirmation and affection. Marriage is beneficial because these goods can either not be produced individually (e.g., offspring and affection) or can be produced more effectively in a collective fashion (e.g., status and economic well-being). Because economic and cultural resources play a central role in the production of marital goods, these characteristics are immediately relevant to the choice of a spouse as well. Who marries whom also depends on a range of social-psychological characteristics, such as need complementarity, compatibility in personality characteristics, and physical attractiveness, but since these factors are not strongly correlated with status, they are less relevant for explaining patterns of status homogamy.

## Economic Resources

When income is shared by the family members, people maximize their income by looking for spouses with the most attractive economic resources. The nature of this competition varies with the role women play in society. Microeconomic theories of assortative mating argue that when the gender gap in earnings is high, there will be an exchange between male economic resources and female resources in other respects (Becker 1981). Assuming marriage is based on the benefits that stem from the division of paid and domestic labor in the household, the earnings disadvantage of women in the labor market gives men a comparative advantage in paid labor, so that the wife's time is used more productively when it is spent on household labor. As a result, men and women are said to exchange paid and domestic labor resources. Sociologists have long made similar arguments about occupational prestige (Edwards 1968). Studies of the "marital mobility" of women, for example, argue that when women share equally in the status of the family, they have an incentive to look for men with prestigious occupations (Tyree and Treas 1974). These men, in turn, are willing to accept a spouse of lower prestige as long as the prestige of families in society depends primarily on men's occupations. In this perspective, marriage is sometimes regarded as an exchange of male occupational prestige and female qualities in other

---

hypothesis (which he called the *prestige hypothesis*) than for the matching hypothesis (which he called the *like-me hypothesis*).

domains, such as high class origins (Rubin 1968) and physical attractiveness (Stevens, Owens, and Schaefer 1990).

When sex roles become more liberal, these forms of exchange begin to lose their meaning. Parallel to a rapid increase in female labor force participation in the last decades, there has been a shift in the nature of married women's work. Whereas in the past wives often worked on an irregular basis to supplement temporarily low incomes of their husbands, in contemporary society their work more often reflects an independent career choice. Changes in the nature of women's work have led several authors to believe that women's economic resources are becoming increasingly attractive to men (Davis 1984; Schoen and Wooldredge 1989; Mare 1991). The wife's human capital may facilitate the husband's access to networks that are helpful in his career, her earnings may subsidize his human capital investments, and the economic security she offers may lessen the need to settle for short-term career benefits, thereby increasing his opportunity to choose more attractive, long-term career objectives. If female labor outside the home reflects women's individual desires to work rather than life-cycle-generated economic needs of the family, the prestige of the wife's occupation may also become increasingly important for the status of the family. As Kingsley Davis said in his essay on the sex-role revolution, "In industrial societies, it used to be that a woman would be asked what her husband does for a living. Now increasingly, men are being asked what their wives do" (Davis 1984, p. 397).

In sum, the economic perspective on the family implies that in a society with traditional sex roles, women are competing among themselves for men with attractive economic resources, whereas men are competing for women with attractive resources in other domains. After the sex-role revolution, men are believed to compete for economically attractive women just as women have always competed for economically attractive men. Because economic competition in the marriage market has become more symmetrical, it has become more intense as well.

### Cultural Resources

An alternative hypothesis about marriage selection is that people prefer to marry someone who is similar with respect to cultural resources. Cultural resources include a variety of values and behaviors, such as child-rearing values, political attitudes, cultural literacy, taste in art and music, and styles of speech. Because cultural resources govern the way people interact with each other, they are of particular importance for the production of relational goods, such as affection and social confirmation, in marriage. That people prefer cultural similarity in personal relationships has been confirmed in a range of experimental social-psychological studies.

Similarity of values and opinions leads to mutual confirmation of behavior and worldviews (Newcomb 1956; Byrne 1971), similarity of taste enlarges opportunities to participate in joint activities (Werner and Parmelee 1979), and similarity of knowledge creates a common basis for conversation, which enhances mutual understanding (Davis 1981). Although sociologists have primarily used social psychological theories of attraction to explain the development of friendships (Verbrugge 1977), these insights are obviously relevant for the choice of a spouse as well.

In theory, the distinction between cultural matching and economic competition can be challenged by positing that spouses compete for cultural resources just as they do for economic resources. This would be plausible if cultural capital could be "converted" into economic capital through the educational system (Bourdieu 1979). For example, people may have an incentive to search for a person who is engaged in high culture, either because this yields prestige in the community or because it helps one's children get ahead in school. Such arguments are not immediately plausible, however, because they ignore the interactional element of personal relationships. Large discrepancies in knowledge muddle the communication process and diverging values and worldviews reduce the amount of mutual confirmation people can obtain. In addition, one of the more salient characteristics separating people with different amounts of cultural capital is the way they speak and communicate (Bernstein 1971). Strong differences in language codes hamper mutual understanding and may give both parties a feeling of estrangement in social interaction.

### Occupations as Badges in the Marriage Market

Searches on the marriage market generally involve considerable uncertainty about the long-term characteristics of a future spouse (Oppenheimer 1988). Although a period of dating or cohabitation obviously reduces these uncertainties, the changes people experience as they get older cannot be predicted well in advance. Uncertainty is especially salient on the marriage market because having been married for a while and having been "productive" in marriage (e.g., by having children) may reduce one's attractiveness to new marriage candidates after divorce. A common strategy of reducing uncertainty is to focus on characteristics that can be known with certainty and that provide clues of future resources. Characteristics that can be noticed without much difficulty are education, occupation, family background, and ethnicity. These attributes are not merely statistical proxies in the empirical study of homogamy, but "badges" that individuals wear to show others what kind of person they are. Spouse selection can thus be regarded as a filtering process (Goode 1964).

People first use proxies to reduce the entire pool of candidates to a limited set of individuals and subsequently find their spouse by interacting within these homogeneous networks. The second part of the process is also the phase in which more psychological factors like love and need complementarity come into play (Winch 1958).

Of the various badges that are worn in the marriage market, occupation is a particularly important one. The kind of work a person does serves as a mark of one's financial prospects; it tells us something about the kind of norms, values, and tastes a person will develop, and it functions as an indicator of the prestige one receives in the community (Treiman 1977). Because so much of contemporary daily life is organized around work, the kind of work prospective marriage partners do is also an important indicator of how their life together will be organized (Openheimer 1988). While occupations have occasionally been criticized for being a weaker empirical predictor of values and lifestyles than educational attainment (Davis 1982), such critiques typically depend on crude classifications of occupations. Detailed examinations of occupational effects (Peterson and Simkus 1992; Porter 1967) generally show that occupational cultures do exist. More important, recent European studies have shown that when occupational status is disentangled into cultural and economic dimensions, it has important and differential effects on a range of lifestyles and values net of the influence of education (Bourdieu 1979; De Graaf et al. 1989). My study follows these earlier studies and uses the earnings levels of detailed occupations as measures of the economic resources of newlyweds; it uses the schooling levels of detailed occupations as measures of newlyweds' cultural resources.

Occupations also have well-known limitations. First, it can be argued that the jobs women hold before marriage are unreliable or at least incomplete indicators of their social status (Rubin 1968). Many married women did not work for pay after marriage, and if they did, their occupation would sometimes be different from the occupation they held before marriage. While this is a plausible criticism under conditions of traditional sex roles, the rise in married women's labor force participation and the increasing age at marriage make it increasingly possible to say that both men and women are "known by their work." Second, life-course research has shown that the transition to adult economic and familial roles is a long and sometimes messy process (Rindfuss, Swicegood, and Rosenfeld 1987). For example, many teenagers and young adults hold jobs while in school, and such jobs tend to have little relationship with their ultimate occupation. In this case, prospective brides (or grooms) have better information on the future characteristics of their spouse than the occupational data suggest. Temporary and other marginal forms of employment may also continue for a while after people

leave school. In this case, the stopgap nature of a man's job may truly reflect uncertainty about his ultimate career destination (Oppenheimer 1988).

### Hypotheses

Using the aforementioned measures of cultural and economic occupational status, four hypotheses will be examined empirically.

**HYPOTHESIS 1.**—*If cultural matching is more important on the marriage market than is economic competition, we would expect similarity with respect to occupational schooling (cultural status) to be greater than similarity with respect to occupational earnings (economic status).*

**HYPOTHESIS 2.**—*If economic competition on the marriage market has increased over time, we would expect to find an increase in similarity with respect to occupational earnings without a corresponding increase in similarity with respect to occupational schooling.*

**HYPOTHESIS 3.**—*Insofar as partner choice is oriented toward traditional sex roles within marriage, we may expect a trade-off between economic and cultural resources. More specifically, we would expect men with high occupational earnings to marry women with high occupational schooling (cultural status) more often than they marry women with high occupational earnings (economic status).*

**HYPOTHESIS 4.**—*The relevance of occupation as a marker in the marriage market increases as people get older and gain experience in the labor market. Hence, we would expect both cultural and economic dimensions of occupational homogamy to become more important over the individual life cycle.*

### ANALYSES AND FINDINGS

After developing a scale of cultural and economic occupational status, I examine the occupations of recently married couples in the 1970 and 1980 censuses. I first describe the occupational marriage patterns in an exploratory fashion and subsequently use the empirically derived two-dimensional status scale in a series of log-linear models to test the four hypotheses.

#### Two Dimensions of Occupational Status

To develop scales of occupational status, I use data on the civilian labor force in the 1% public use microsamples of the 1970 and 1980 U.S. censuses. In each census, I combine the more than 400 occupational titles into 70 occupational groups. Detailed occupations are merged when they are roughly similar with respect to industry and type of work. Insofar as possible, I keep occupations separate that are similar in type of work but

different in earnings or education (e.g., postal clerks vs. other mail clerks, policemen vs. other protective service workers). Managerial and administrative occupations are grouped on the basis of major industry because earnings differences within this group strongly depend on type of industry (e.g., managers of retail trade vs. managers of manufacturing companies). Even though the detailed census classification has changed between 1970 and 1980, the 70 occupational groups are reasonably comparable across censuses.

I follow the spirit of Duncan's original approach to scaling occupations, but I separate the two ingredients that are combined in the conventional socioeconomic index of occupations (Duncan 1961; Stevens and Cho 1985). The earnings of the workers in an occupation provide a measure of a person's economic status position, and the levels of schooling of the workers in an occupation are an indicator of a person's cultural status position. Because occupations vary in age composition (Kaufman and Spilerman 1982), the relationship between occupational earnings and schooling is downwardly biased. Occupations with many young workers, such as food service workers, tend to have low earnings due to well-known life-cycle effects on earnings, but relatively high levels of education due to the historical increase in schooling. I therefore standardized all measures for age by regressing years of schooling completed and the natural logarithm of annual earnings on a set of dummy variables for detailed occupations and a second-order polynomial specification of age. The scale scores are the earnings and education levels of each occupation as predicted by these individual-level regressions. Scales are constructed for the male and female civilian labor force separately.<sup>3</sup>

Figure 1 presents the cultural and economic occupational status scales for the male labor force. As can be seen from the scatterplot, the two measures are imperfectly correlated ( $r = .74$ ). All administrators and managers, except those in retail trade, have high earnings but relatively low levels of schooling, whereas most occupations in the educational and cultural sectors have relatively low earnings and high levels of schooling (teachers, artists, social workers, and writers). Physicians rank highest on both dimensions, while legal specialists take second place in both.

<sup>3</sup> Regressions are run separately for the 1970 and 1980 census. The final scale is the average of the two. Earnings refer to annual income from wages, salary, and self-employment in the calendar year before the census. Persons with zero earnings are excluded. I did not take into account weeks and hours worked because the economic status scale is intended to reflect an individual's overall expected economic position in society, which is affected by labor supply. Occupational earnings are defined as the expected annual earnings for men and women who are in the middle of their career (men and women 40 years old). Occupational schooling is defined similarly.

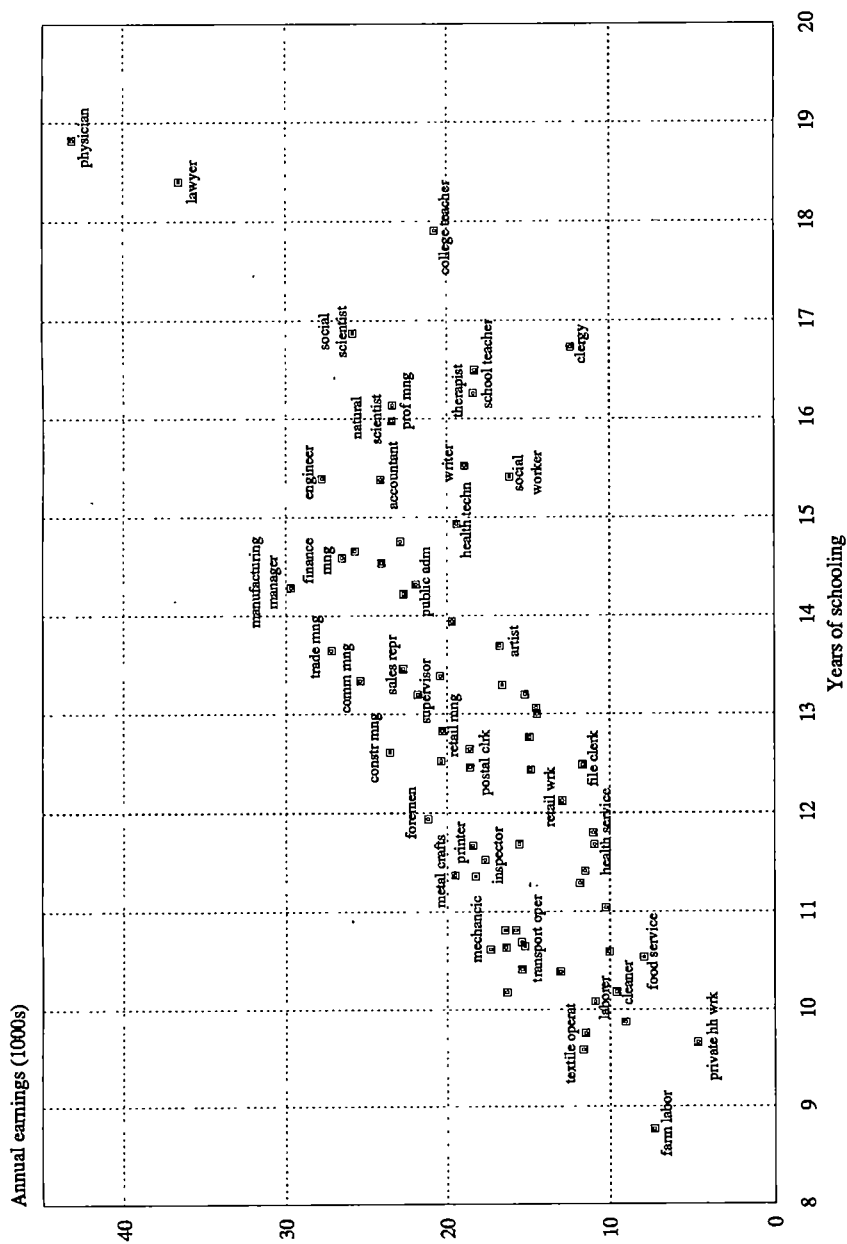


FIG. 1.—Earnings and schooling levels of 70 occupations; male labor force

The scatterplot confirms Bourdieu's (1979) work on France and work by De Graaf et al. (1989) on the Netherlands, which have shown that the occupational structure consists of two, partially independent hierarchies: a cultural and an economic status ladder. Bourdieu also argues that the two dimensions of status are primarily distinct at the top, and he even speaks of two mutually exclusive French elites: a cultural elite consisting of occupants of the educational system and the arts, and an economic elite consisting of occupants of the higher positions in business, industry, and trade. My scales show that this is generally true for the stratification system in the United States as well. For professional, technical, managerial, and administrative occupations, the Pearsonian correlation between cultural and economic status is .46; for lower-level occupations it is .69.

While the dimensions overlap the least at the top, there are also examples of disparities between cultural and economic status in the middle of the hierarchy. Most service occupations and retail sales workers are relatively high on the cultural dimension, whereas foremen, and craftsmen in metal and printing industries, are relatively high on the economic dimension. The low earnings of food and personal service workers are probably due to the fact that many of these workers work part-time. That manufacturing workers have higher earnings than other, similarly educated occupations in part reflects the higher degrees of unionization in these industries. The scatterplot for the female labor force looks fairly similar, but the correlation between the two dimensions is somewhat lower ( $r = .67$ ).<sup>4</sup> Full occupational scores are available upon request.

### Data and Measurement

To analyze occupational homogamy, I examine the cross-classification of husbands' and wives' detailed occupations. The analysis is limited to married persons between the ages of 16 and 34 who live together and have been married for about two years (two-year marriage cohorts).<sup>5</sup> By focusing on recently married couples, my estimates will not be affected by the influence that spouses may have on each other's career during

<sup>4</sup> The correlation between male and female characteristics of occupations is .98 for the cultural dimension and .91 for the economic dimension. That the two cross-sex correlations are different suggests that if everyone were to marry within his or her occupation (which is impossible in practice), the cultural dimension of homogamy would be stronger than the economic dimension. Because this may artificially affect my comparisons, I also fitted models based on male status scales for both husbands and wives. The findings from these analyses were essentially the same.

<sup>5</sup> Because census data do not provide information on the exact dates of birth and marriage, I selected couples in which the wife's age at the time of the census is at most two years higher than her age at marriage.



marriage.<sup>6</sup> Limiting the sample to newlyweds also rules out bias that may arise from attrition through separation and divorce. Because second and later marriages tend to have different levels of homogamy than first marriages (Jacobs and Furstenberg 1986), the sample is limited to men and women who married for the first time.

In each census, people who were at work at the time of the census reported the occupation they had in the week prior to the census. Persons who were unemployed at that time but worked in the past and persons not in the labor force who worked at some point in the decade preceding the census reported their last occupation. While the labor force participation of married women was still on the low side in the 1970s, throughout this century the employment of single women has been about as high as that of single men (Sweet and Bumpass 1987, p. 73). Since I focus on recently married women, those who quit their job upon entering marriage are included in the labor reserve and report the occupation they had before marriage. This approach is an improvement over previous studies of occupational homogamy, most of which excluded large numbers of—predominantly female—homemakers (Hout 1982).

The drawback of focusing on newlyweds is that some persons never worked before marriage (about 10% of the women and 5%–7% of the men). Additional analyses show that persons who never worked marry at an earlier age, and are more likely to marry while in school or soon after finishing school. Women who never worked are also more likely than others to marry men who never worked. We could regard these persons as homemakers or assign them a general status score based on their education, but this probably would have little differential effect on the two forms of occupational homogamy. While husbands and wives who marry early tend to be more similar with respect to education (Mare 1991), there are no immediate reasons to believe that those who never worked would be more similar with respect to economic status than with respect to cultural status (or vice versa). With the data at hand, however, it is not possible to assess the direction and extent of this bias directly. The best alternative is to obtain indirect information on possible biases by examining the importance of life-cycle factors for persons who do have occupational data.

### A Description of Occupational Marriage Selection

Which occupations are most endogamous? And which occupations intermarry most often? Using the pooled 1970 and 1980 marriage tables, I

<sup>6</sup> Because census data do not contain information on unmarried couples, mutual influence or adaptive socialization during a period of cohabitation before marriage cannot be taken into account.

present in table 1 the percentages of husbands and wives who marry within their occupation. Overall, few people marry within their group (6%), but this is largely a consequence of the detailed nature of the classification. Because occupation-specific percentages are strongly affected by the relative size of an occupational group, I also present odds ratios. In the present application, odds ratios are defined as the ratio of the odds that a person with a given occupation marries within rather than outside the group to the odds that a person with another occupation marries a person with that specific occupation. The higher this ratio, the stronger the degree of endogamy. Odds ratios are an appealing measure of endogamy because they are not affected by the relative size of the group under consideration.

The highest levels of in-marriage are observed for professional and technical occupations, and within this group, lawyers, religious workers, physicians, and college teachers are most endogamous. Managers and administrators are the second most endogamous group, while sales and clerical workers are the least endogamous. Next to differences in odds ratios between major occupational groups, we observe substantial variation within major groups.

It is often presumed that people tend to marry within their occupation because they meet their spouse at work. Whether the workplace fosters endogamy largely depends on the extent to which the workplace is segregated by sex and (detailed) occupation. Table 1 shows that there are sharp sex differences in occupation-specific in-marriage percentages, and most of these are consistent with what we would expect given the occupational segregation of young men and women. For example, 41% of male school teachers marry a teacher, but only 16% of female school teachers do so. Lawyers show the opposite pattern: 47% of female lawyers are married to lawyers, whereas only 12% of male lawyers are married within their group. Whether endogamy is also affected by the occupational heterogeneity of the workplace is more difficult to assess, although some cases provide supportive evidence. Postal clerks, for example, are the most endogamous clerical occupation, and policemen are the most endogamous service occupation. Both groups tend to work in occupationally less heterogeneous settings than other clerical and service workers. The highly endogamous marriage choices of farm laborers probably reflect a mixture of workplace effects on the one hand and more general constraints such as rural isolation on the other.

Because, in general, few people marry within their group, it is instructive to examine which occupations intermarry. From my theoretical perspective, lawyers and physicians are a particularly interesting case because if they intermarry, they cannot "match" on the two dimensions simultaneously (unless lawyers marry teachers). As table 2 shows, the

TABLE 1  
PERCENTAGE OF NEWLYWEDS MARRIED WITHIN OCCUPATION

OCCUPATION	HUSBANDS		WIVES		Odds Ratio
	%	N	%	N	
Professional/technical:					
Legal specialists .....	11.9	294	47.3	74	166.5
Religious specialists .....	3.9	128	27.8	18	150.9
Physicians .....	7.1	294	28.4	74	69.7
College teachers .....	10.3	339	18.1	193	34.9
Physical scientists .....	5.0	322	15.0	107	27.6
Therapists .....	10.8	148	5.6	287	21.5
Social scientists .....	2.5	121	4.9	61	21.1
Social and recreation workers .....	10.8	192	6.2	340	18.4
Computer specialists .....	5.9	523	15.0	207	17.1
Writers and librarians .....	7.0	157	4.5	245	15.5
Artists .....	7.7	440	10.1	338	13.1
School teachers .....	41.3	1,374	16.1	3,520	10.5
Engineers .....	1.4	1,282	21.2	85	10.0
Accountants .....	4.7	663	8.5	364	7.0
Nurses and health technicians .....	26.0	400	4.3	2,442	6.9
Technicians .....	4.0	1,706	12.2	566	3.9
Miscellaneous professionals .....	.0	104	.0	26	.0
Managers/administrators:					
Farm managers .....	4.7	531	62.5	40	157.6
Construction managers .....	.6	173	16.7	6	56.1
Public administrators .....	3.2	157	6.9	72	23.6
Communications utilities .....	2.2	139	5.6	54	20.8
Wholesale trade managers .....	.8	238	4.3	46	9.3
Finance managers .....	4.0	556	8.3	265	8.1
Personnel workers .....	3.0	230	3.6	194	8.1
Manufacturing managers .....	1.7	519	7.8	115	8.0
Retail sales managers .....	4.5	1,277	13.2	438	5.9
Professional services .....	2.5	317	3.3	239	5.4
Sales/clerical:					
Postal clerks .....	2.0	254	6.7	75	13.8
Other mail clerks .....	1.7	116	1.3	150	5.7
Sales and clerical supervisors .....	3.7	622	5.9	388	5.0
Public relations workers .....	.9	114	1.2	81	5.3
File and library clerks .....	8.4	203	1.9	903	4.9
Adjusters and investigators .....	3.4	320	2.6	431	4.0
Retail sales workers .....	15.7	1,663	5.3	4,886	3.9
Financial sales representatives .....	2.1	703	5.4	279	3.9
Information clerks/receptionists .....	7.3	137	1.0	1,021	3.7
Other sales representatives .....	1.2	953	6.4	171	3.5
Telephone operators .....	3.7	27	.2	544	3.4
Distribution clerks .....	3.3	1,237	6.9	594	2.9
Office machine operators .....	1.5	266	1.4	294	2.5
Administrative support clerks .....	14.7	675	2.6	3,744	2.1
Financial clerks .....	7.4	366	1.2	2,241	1.6
Secretaries .....	20.6	97	.3	7,568	1.4

TABLE 1 (*Continued*)

OCCUPATION	HUSBANDS		WIVES		Odds Ratio
	%	N	%	N	
Crafts:					
Printing crafts .....	1.6	370	4.9	123	6.7
Auto mechanics .....	.2	1,232	14.3	14	6.4
Metal crafts .....	.5	842	9.3	43	5.8
Foremen .....	1.0	1,085	8.5	130	4.1
Miscellaneous craftsmen .....	2.4	1,198	8.7	332	3.8
Other mechanics .....	.6	1,967	13.6	81	3.7
Construction crafts .....	.4	3,595	23.1	65	3.7
Operatives:					
Textile operatives .....	34.8	319	7.5	1,478	18.2
Metal machine operatives .....	2.4	908	12.0	184	7.3
Material moving operatives .....	.3	973	9.4	32	5.1
Hand working operatives .....	6.0	1,658	10.3	965	3.4
Inspectors and testers .....	2.6	464	3.1	386	3.4
Transport operatives .....	.7	2,328	13.1	122	3.0
Other machine operatives .....	7.0	2,897	15.3	1,317	3.0
Laborers:					
Farm laborers .....	13.0	631	29.0	283	35.3
Construction laborers .....	.6	947	20.7	29	13.1
Agricultural laborers .....	1.3	449	5.9	102	6.7
Miscellaneous laborers .....	2.8	1,753	14.7	333	4.7
Freight and stock handlers .....	.3	630	5.3	38	4.2
Baggers and packagers .....	2.6	643	2.6	664	2.0
Service workers:					
Policemen and firemen .....	1.0	668	30.4	23	31.6
Private household workers .....	12.5	16	.5	419	16.4
Health service workers .....	18.9	217	2.3	1,763	6.3
Cleaners .....	5.8	852	8.6	573	5.5
Food service workers .....	23.4	743	5.1	3,382	4.2
Personal service workers .....	12.0	366	2.7	1,660	3.9
Protective service workers .....	.4	261	1.6	62	3.0

five female occupations that are most frequently married to physicians consist of a mixture of occupations that are high in economic status but low in cultural status (trade managers), occupations that are high in cultural status and relatively low in economic status (college teachers), and occupations that are high in both respects (lawyers). A clearer picture forms when we examine who marries a female physician. Of all male occupations, college teachers and social scientists are most likely to be married to a female physician. Since both groups rank high in the cultural hierarchy but fairly low in the economic status ladder, similarity with regard to cultural status seems to play a more important role in marriage

TABLE 2

PERSONS MOST FREQUENTLY MARRIED TO LAWYERS, PHYSICIANS, MANAGERS,  
AND SCHOOL TEACHERS

Women Married to Physicians	(%)	Men Married to Physicians	(%)
Wholesale trade managers .....	4.3	College teachers .....	1.2
Physical scientists .....	3.7	Social scientists .....	.8
College teachers .....	3.6	Health technicians .....	.8
Nurses .....	3.4	Receptionists .....	.7
Lawyers .....	3.4	Therapists .....	.7
All wives .....	.6	All husbands .....	.2
Women Married to Lawyers	(%)	Men Married to Lawyers	(%)
Social scientists .....	6.3	Physical scientists .....	.9
Public administrators .....	4.9	Mail clerks .....	.9
Finance managers .....	4.9	Physicians .....	.7
Writers .....	4.5	Public administrators .....	.6
Therapists .....	4.5	Sales supervisors .....	.2
All wives .....	.6	All husbands .....	.2
Women Married to Managers	(%)	Men Married to School Teachers	(%)
Communications managers .....	9.3	Lawyers .....	22.1
Public administrators .....	8.3	Professional service managers .....	21.8
Personnel specialists .....	8.2	Therapists .....	21.6
Professionals (misc.) .....	7.7	Clergy .....	20.3
Public relations specialists .....	7.4	Professionals (misc.) .....	20.2
All wives .....	3.1	All husbands .....	7.4

NOTE.—Managers are limited to manufacturing, finance, construction, and wholesale trade.

selection than similarity with regard to economic status. The groups most likely to marry male lawyers are social scientists, public administrators, finance managers, and writers (see table 2).

It is also interesting to examine who marries female school teachers, a cultural status group with low earnings, and who marries managers of manufacturing, finance, construction, and wholesale trade, a high economic status group with comparatively little schooling. The list of female occupations marrying male managers points to economic rather than cultural similarity (personnel specialists, public relations workers, and communications managers). The list of male occupations that most often marry female school teachers, on the other hand, is characterized by either high status in both dimensions (lawyers and professional service managers) or by high cultural and low economic status (religious workers and therapists).

# LOG-LINEAR ANALYSIS OF OCCUPATIONAL MARRIAGE SELECTION

Log-linear models of scaled association are frequently used to analyze association in square contingency tables with ordered categories (Goodman 1979). I rely on multidimensional extensions of these models introduced by Hout (1984). The set of  $n_{ij}$  observed counts in the 4,900 ( $70 \times 70$ ) combinations of husband's ( $i$ ) and wife's ( $j$ ) occupation can be regarded as arising from a multinomial sampling distribution with  $E(n_{ij}) = m_{ij}$ . It is plausible to assume that  $m_{ij}$  is a function of differential opportunity on the one hand and mutual selection preferences on the other. With differential opportunity I refer to effects that stem from the relative size of male and female occupations in the marriage table. With selection preferences, I refer to people's preferences to marry within the group (endogamy) and their preferences to marry occupations that are close to them when marrying outside the group (homogamy).

To formulate a log-linear model, I first define a set of variables:  $X_i$  is a vector of dichotomous variables referring to husbands' occupation ( $X_i = 1$  when husband's occupation is  $i$ ;  $X_i = 0$  otherwise);  $Y_j$  is a vector of dichotomous variables referring to wife's occupation ( $Y_j = 1$  when wife's occupation is  $j$ ;  $Y_j = 0$  otherwise);  $C_i$  and  $C_j$  represent the cultural status scores for male and female occupations;  $E_i$  and  $E_j$  represent the economic status scores for male and female occupations; and  $P$  is a dichotomous variable indicating whether the occupational combination is endogamous ( $P = 1$  if  $i = j$ ;  $P = 0$  otherwise). The model can now be defined as

$$\ln(m_{ij}) = \sum_{i=1}^{70} \alpha_i^r X_i + \sum_{j=1}^{70} \alpha_j^c Y_j + \gamma P + \gamma^e P E_a + \gamma^c P C_a \\ + \delta^e E_i E_j + \delta^c C_i C_j.$$

The  $\alpha$  parameters adjust for the marginal distributions and take into account that marriage selection depends on the relative size of male and female occupations in the table. The  $\gamma$  parameters model occupational endogamy. Following Hout (1984),  $\gamma$  can be called a "general endogamy" parameter; it measures the overall degree of in-marriage. Parameters  $\gamma^c$  and  $\gamma^e$  can be called "scaled endogamy" parameters and measure how the strength of endogamy varies along the cultural and the economic status dimensions.<sup>7</sup> The  $\delta$  parameters, which can be called "scaled asso-

<sup>7</sup> To simplify the model, I averaged the male and female scores in the interaction effects with  $P$ . Thus  $C_a$  represents the average cultural status score, and  $E_a$  represents the average economic status score.

ciation" parameters, model occupational homogamy. The  $\delta^c$  parameter measures how cultural status differences affect the degree of intermarriage while controlling for economic differences between occupations. Similarly, the  $\delta^e$  parameter measures how economic status differences affect the degree of intermarriage while controlling for cultural differences between occupations. To assess which of the two status factors are stronger impediments to intermarriage, I transformed all status scales into scores with zero mean and unit variance.<sup>8</sup>

The model above can be interpreted by considering the odds ratios in the  $2 \times 2$  subtables composed of rows ( $i$ ) and ( $i + d$ ) and columns ( $j$ ) and ( $j + d$ ) in the larger table. Because of the presence of endogamy parameters, we need to distinguish  $2 \times 2$  tables that do not involve diagonal cells ( $i \neq j$ ) from subtables that do ( $i = j$ ). I first discuss the former case. Compare the odds of marrying a woman with status  $C_j + C_d$  rather than  $C_j$  for two men who are  $C_d$  points apart (all parties have equal scores on  $E_i$ ). The easier it is for a man to marry up the scale, compared to how easy that is for a "lower" man, the stronger the association in the subtable, and the less intermarriage (or more homogamy) across distance  $C_d$ . (Men and women can be interchanged.) Based on the above model, the logarithm of this odds ratio is defined as

$$\theta_1 = \ln \frac{m_{(i+d)(j+d)}/m_{(i+d)j}}{m_{i(j+d)}/m_{ij}} = \delta^c C_d^2 \quad \text{for } i \neq j.$$

The association in this  $2 \times 2$  subtable is a direct function of the squared distance and the  $\delta^c$  parameter. In other words,  $\delta^c$  measures the degree of homogamy for one unit of distance along  $C_i$ .

Subtables that involve diagonal cells have a different interpretation. For the  $2 \times 2$  subtable of teachers and lawyers, for example, we can compute the ratio of the odds that a lawyer marries a lawyer (rather than a teacher), to the odds that a teacher marries a lawyer (rather than a teacher). If lawyers and teachers are  $C_d$  points apart, and assuming they have equal scores on  $E_i$ , this odds ratio is defined as,

$$\begin{aligned} \theta_2 = \ln \frac{m_{(i+d)(i+d)}/m_{(i+d)i}}{m_{i(i+d)}/m_{ii}} &= \delta^c C_d^2 + 2\gamma + \gamma^c(C_i + C_{i+d}) \\ &+ \gamma^e(E_{i+d} + E_i). \end{aligned}$$

Hence, intermarriage between two occupational groups is not only affected by association parameters, but also by endogamy parameters. If

<sup>8</sup> Scores are standardized for occupations, not for individuals. The use of unweighted scores guarantees that association coefficients are independent of the marginal distributions (Becker and Clogg 1989).

the last three terms in the above equation are positive, the association in subtables involving the diagonal is stronger than the association in subtables that do not involve the diagonal. This degree of "inertia" consists of two parts, a general degree of endogamy,  $\beta$ , and a degree of endogamy that depends on the cultural and economic status scores of the occupations involved.

Because the marriage tables contain 4,900 cells, they are quite sparse. About half of the cells are empty and the ratio of cases to cells is between 4:1 and 5:1. As a result, any conventional measure of fit is biased. While it is still valid to compare likelihood-ratio chi-square values across models if the difference in the number of degrees of freedom is small (Fienberg 1985, p. 176), concern remains as to whether my estimates are reliable. Zero cells are assumed to have nonzero expected counts because every combination can occur in principle. In reality, there may be some variation in the counts of the observed empty cells, but sparse multinomials do not contain information on this variation (Bishop, Fienberg, and Holland 1989). A way of distinguishing observed zero counts from one another is to use other data. In the present context, the marriage table for all married couples, regardless of marital duration and marriage order, provides useful information because it contains few empty cells. About 10% of the cells in the full table are empty and the ratio of cases to cells is between 50:1 and 60:1. Rather than adding a small positive constant to each cell, as is common practice in the literature, I fit models on so-called smoothed multinomials, that is, a combination of the original table and the marriage table for all couples in the particular census. The tables are added using a weighting scheme suggested by Bishop et al. (1989, pp. 401-2). The relative weight of the external cell probabilities in the combined tables is about .10. Bishop et al. (1989) show that estimates of the cell counts in these smoothed multinomials can be regarded as pseudo-Bayes estimates.<sup>9</sup> Likelihood-ratio chi-square statistics ( $G^2$ ) and Bayesian information coefficients (BICs) are presented in table 3. The BICs measure how plausible the model is independent of sample size (Raftery 1986). Saturated models have a BIC of 0, and the more negative the score, the better the model.<sup>10</sup>

<sup>9</sup> The relative weight of the external cell probabilities is generally lower when the dissimilarity between the probabilities of the original and the external table is greater. Smoothed counts are defined as  $s_{ij} = N/(N + K) \times (m_{ij} + Kr_{ij})$ , where  $m_{ij}$  are the original counts,  $r_{ij}$  are the cell probabilities of the external table, and  $K = (N^2 - \sum m_{ij}^2)/\sum (m_{ij} - Nr_{ij})^2$  (see Bishop et al. 1989, pp. 401-2).

<sup>10</sup> Models are estimated in SPSS-loglinear, which uses a Newton-Raphson algorithm to obtain maximum-likelihood estimates.



TABLE 3  
LOG-LINEAR MODELS OF OCCUPATIONAL MARRIAGE SELECTION

MODEL AND DESCRIPTION	df	1970 COHORT			1980 COHORT		
		$L_2$	BIC	$\delta$	$L_2$	BIC	$\delta$
A, independence .....	4,761	9,452	-38,423	...	9,904	-38,328	...
B, SEI homogamy .....	4,760	6,135	-41,730	35.1	6,703	-41,518	32.3
C, Two-dimensional homo- gamy .....	4,759	5,217	-42,638	44.8	6,149	-42,063	37.9
D, C + general endogamy	4,758	4,544	-43,301	51.9	4,996	-43,206	49.6
E, D + linear variation in endogamy .....	4,756	4,536	-43,288	52.0	4,977	-43,204	49.7
F, D + quadratic variation in endogamy .....	4,754	4,483	-43,322	52.6	4,970	-43,191	49.8
G, C + occupation-specific endogamy .....	4,689	4,148	-43,003	56.1	4,531	-42,972	54.3
H, D + exchange of status	4,756	4,515	-43,310	52.2	4,936	-43,245	50.2
N .....			23,288			25,115	

NOTE.—See text for explanation of models;  $\delta = 100 \times (L_A^2 - L^2)/L_A^2$ .

### Cultural and Economic Dimensions of Occupational Homogamy

The two-dimensional homogamy model (model C) explains 45% of the  $G^2$  under the model of independence in 1970 and 38% of the  $G^2$  under independence in 1980, confirming that both marriage cohorts are characterized by strong degrees of occupational homogamy. To assess the validity of using a two-dimensional specification, I compare model C to an "SEI homogamy" model. An SEI model is obtained by replacing the two association coefficients by a single association coefficient that is based on the average cultural and economic status scores (model B). By averaging the scores, model B essentially assumes cultural and economic effects are equal and thus becomes a special case of model C. Table 3 shows that the  $G^2$  of the SEI model is significantly higher, indicating poorer fit, while the BIC is less negative, showing that the SEI model is a less plausible model given the data. In other words, occupational homogamy can be described in a parsimonious way by two different dimensions of status.

To compare the relative importance of cultural and economic status homogamy, I present parameter estimates of model C in the first column of table 4. Both scaled association coefficients are positive and statistically significant. Since the two sets of status scores are standardized, the coefficients can be compared directly. In both years, the coefficient of cultural status association is stronger than the coefficient of economic

TABLE 4  
PARAMETER ESTIMATES OF OCCUPATIONAL MARRIAGE SELECTION

	Model C	Model D	Model F
1970 Cohort:			
Economic homogamy .....	.105 (.015)	.094 (.015)	.076 (.016)
Cultural homogamy .....	.570 (.011)	.516 (.011)	.517 (.012)
General endogamy .....	. . .	.934 (.033)	.684 (.061)
Endogamy by			
economic status .....	. . .	. . .	.148 (.069)
(economic status) <sup>2</sup> .....	. . .	. . .	.091 (.036)
cultural status .....	. . .	. . .	-.220 (.047)
(cultural status) <sup>2</sup> .....	. . .	. . .	.209 (.035)
1980 Cohort:			
Economic homogamy .....	.159 (.012)	.121 (.011)	.113 (.013)
Cultural homogamy .....	.485 (.011)	.442 (.012)	.442 (.012)
General endogamy .....	. . .	1.188 (.031)	1.159 (.047)
Endogamy by			
economic status .....	. . .	. . .	.228 (.053)
(economic status) <sup>2</sup> .....	. . .	. . .	-.020 (.027)
cultural status .....	. . .	. . .	-.166 (.049)
(cultural status) <sup>2</sup> .....	. . .	. . .	.090 (.035)
Change between 1970 and 1980:			
Economic homogamy .....	+.054 (.019)	+.027 (.019)	+.037 (.021)
Cultural homogamy .....	-.085 (.016)	-.074 (.016)	-.076 (.017)
General endogamy .....	. . .	+.254 (.045)	+.475 (.077)
Endogamy by			
economic status .....	. . .	. . .	+.080 (.087)
(economic status) <sup>2</sup> .....	. . .	. . .	-.111 (.045)
cultural status .....	. . .	. . .	+.054 (.068)
(cultural status) <sup>2</sup> .....	. . .	. . .	-.119 (.049)

NOTE.—Nos. in parentheses are estimated SEs.

status association. Due to the strong positive correlation between the two dimensions of status, the estimates are negatively correlated and the standard error of their difference will be large. A *Z*-test against the hypothesis of equality, however, is statistically significant at the 1% level, confirming that cultural homogamy is indeed stronger (*Z* = 20.7 in 1970 and 16.6 in 1980).

How have the two dimensions of homogamy changed between 1970 and 1980? In 1980, the cultural dimension of homogamy still dominates, but the economic status association coefficient has increased significantly whereas the cultural status association coefficient has decreased. Since the overall degree of association, as measured by the SEI coefficient, has decreased somewhat (from .76 in 1970 to .66 in 1980), we can conclude that the increase in economic status as a factor in marriage choice has come at the expense of the cultural dimension of homogamy.

Because the samples are large, statistical significance is a limited guide in evaluating the strength of these results. As a substantive criterion, I calculate expected odds ratios under model C. Odds ratios in model C measure the odds that a high-status man marries up in status, relative to the odds that a lower-status man marries up. The odds ratio of bridging a cultural status distance of 1 SD in 1980 is 1.62 ( $e^{.485}$ ). One standard deviation represents the difference between college teachers and accountants, for example. For bridging a cultural status difference of 2 SDs, the odds ratio is 6.96, which is already quite strong ( $e^{4 \times .485}$ ). For crossing an economic status distance of 1 SD, the distance between engineers and college teachers, for example, the odds ratio is 1.17, reflecting almost no association. The association increases to 1.89 for 2 SDs of economic status distance. While both types of association are substantively important, the cultural dimension clearly dominates. When considering marrying across cultural and economic distances simultaneously, we can simply multiply the odds ratios or add their logarithms ( $e^{.485 + .159}$ ).

### Occupational Endogamy

The homogamy model assumes that marriage patterns are a function of the distances between groups, regardless of where in the table these distances are bridged. To assess if intermarriage becomes less common when moving away from the diagonal, I add a general endogamy parameter to model C. Table 4 shows that there is a significant degree of endogamy in the marriage table, and this has increased between 1970 and 1980. To assess whether endogamy varies across occupations, I compare the fit of a model for general endogamy (model D) to the fit of a model for occupation-specific endogamy, which includes a single endogamy parameter for each occupation (model G). The difference in  $G^2$  between these models represents the variation in endogamy and is statistically significant in both years (396 in 1970 and 465 in 1980, both with a loss of 69 *dfs*). When relying on BICs, however, we see that the occupation-specific model is a slightly poorer representation of the data than the general endogamy model.

To assess whether occupation-specific differences in endogamy are a function of cultural and economic status, I include interaction effects of endogamy and cultural and economic status (model E), and interaction effects of endogamy and squared economic and cultural status scores (model F). Model E assumes that endogamy parameters (in logarithmic form) change in a linear fashion with status, model F allows this relationship to be parabolic. Only a small part of the occupational variation in endogamy can be explained by the interaction effects of status and en-

dogamy (15% in 1970 and 6% in 1980). The quadratic model (model F) fits better than the linear model, but the BIC shows that this is only true in 1970. Parameters of model F are presented in the third column of table 4.

The effects of economic status and squared economic status are positive. Hence, the degree of endogamy becomes stronger when people move up on the economic status ladder. One interpretation of this finding lies in the nature of the selection process. Strictly speaking, the logic of competition implies that those at the top are proposed to by everyone beneath them in the hierarchy, while they themselves cannot compete for spouses with higher-status positions. In essence, although they are in great demand they can only settle for people like themselves. As a result, it is possible that they develop strategies of enclosure that prevent them from marrying down. For people at the bottom of the status hierarchy, enclosure strategies would only prevent them from marrying up, which may explain why closure there is less important.

Table 4 further indicates that the effect of cultural status is negative while the effect of squared cultural status is positive. According to model F, the minimum level of endogamy occurs for occupations with a cultural status score of .526 in 1970 and .941 in 1980. Because most occupations have cultural status scores in the  $-1.5$ – $+2.5$  range, this indicates that groups in or just above the middle of the cultural hierarchy are less closed than groups at the top and bottom of the cultural hierarchy. It is not entirely clear how to interpret this U-shaped pattern, except by reference to "edge" effects (Marsden 1988). Because persons at the extremes of the distribution have a smaller pool to choose from, they may be more compelled to choose within their group. Given the modest improvements in fit, however, the relationship between the closure of an occupational group and its cultural or economic status is not exactly strong.

### Exchange of Cultural and Economic Occupational Status?

Thus far, competition has been defined as the tendency to search for a spouse with high economic resources. Several authors have suggested that when sex roles are traditional, competition in the marriage market may take the form of an exchange between male economic resources and female domestic resources, physical attractiveness, or high class background. The exchange hypothesis can also be applied to women's cultural resources. Given the importance of cultural capital for styles of consumption in the home and leisure activities (Bourdieu 1979), and considering the strong effect of parental cultural capital on children's educational attainment (De Graaf 1986), cultural resources can be regarded as a domestic resource for which men would compete. To evaluate whether

women are more likely to marry up in economic status when they have more favorable cultural status characteristics, I consider the following model,

$$\ln(m_{ij}) = \sum_{i=1}^{70} \alpha_i^e X_i + \sum_{j=1}^{70} \alpha_j^c Y_j + \gamma P + \delta^e E_i E_j + \delta^c C_i C_j \\ + \eta^{ec} E_i C_j + \eta^{ce} C_i E_j.$$

The model above can be interpreted by considering the odds of marrying a man of economic status  $E_i + E_d$  as opposed to marrying a man of status  $E_i$  (with the same cultural status). Compare the odds for women with different cultural status positions and similar economic positions. An exchange can be said to occur when a woman of cultural status  $C_j + C_d$  has more chance of marrying up in economic status than a woman of cultural status  $C_j$ . The ratio of these odds, according to the model, is (in logarithmic form)  $\eta^{ec} E_d C_d$ . Hence, a positive  $\eta^{ec}$  indicates that women offer their cultural status in exchange for men's economic status. If  $\eta^{ec}$  is negative, women's cultural status can be seen as a handicap in finding a man of high economic status. To be complete, the model also includes the reverse exchange ( $\eta^{ce}$ ). Note that since all scales are standardized, marital mobility is conceptualized in relative terms.

Adding the two covariates to model D leads to a modest improvement in fit (model H, table 3). The coefficients, however, are small, and the opposite of what we would expect. The estimate of  $\eta^{ec}$  is  $-.080$  in 1970 and  $-.076$  in 1980, whereas the estimate of  $\eta^{ce}$  is  $.030$  in 1970 and  $.088$  in 1980. This suggests that there are no clear trade-offs between women's cultural resources and men's economic resources. On the contrary, having high cultural status seems to be somewhat of a handicap for women in the competition for men of high economic status. Alternatively, one can interpret the unexpected negative value of  $\eta^{ec}$  as evidence that high economic status serves as a handicap in the search for women of high cultural status.

### Life-Cycle Variation in Assortative Mating by Occupation

Since young men and women often work at jobs that have little relation to their adult careers, we would expect that occupation becomes a more important factor in the marriage market as people gain experience in the labor market. In tables 5 and 6, I examine the role of life-cycle stage by comparing couples who married shortly after leaving school to couples who married long after they left school. Previous analyses of homogamy have shown that people who marry while in school or shortly after leav-

TABLE 5  
FIT OF LOG-LINEAR MODELS BY TIME SINCE LEAVING SCHOOL

Cohort and Model	≤ Two Years	Three-Six Years	≥ Seven Years
1970 Cohort:			
A .....	-38,357	-39,146	-37,529
C .....	-40,233	-40,540	-38,242
D .....	-40,535	-40,760	-38,372
N .....	9,574	9,084	4,630
1980 Cohort:			
A .....	-38,633	-39,259	-37,813
C .....	-40,203	-40,754	-38,450
D .....	-40,556	-41,221	-38,784
N .....	9,338	10,645	5,118

NOTE.—For a description of the models, see table 3.

ing school are more likely to marry homogamously with respect to education than others (Mare 1991). One of the reasons, Mare suspects, is that schools and, in particular, colleges function as social settings that provide opportunities of meeting a spouse within the educational group. In the present context, the time between marriage and leaving school can be regarded as an indicator of labor market experience at the time of mar-

TABLE 6  
PARAMETER ESTIMATES BY TIME SINCE LEAVING SCHOOL

Cohort and Model	≤ Two Years	Three-Six Years	≥ Seven Years
1970 Cohort:			
Model C:			
Economic homogamy .....	.069 (.022)	.124 (.026)	.171 (.036)
Cultural homogamy .....	.545 (.015)	.578 (.020)	.570 (.029)
Model D:			
Economic homogamy .....	.066 (.022)	.107 (.026)	.146 (.035)
Cultural homogamy .....	.482 (.016)	.536 (.020)	.529 (.029)
General endogamy .....	.922 (.049)	.930 (.056)	.973 (.075)
1980 Cohort:			
Model C:			
Economic homogamy .....	.149 (.018)	.158 (.020)	.163 (.029)
Cultural homogamy .....	.483 (.017)	.501 (.018)	.466 (.026)
Model D:			
Economic homogamy .....	.119 (.018)	.118 (.020)	.114 (.029)
Cultural homogamy .....	.444 (.017)	.457 (.018)	.417 (.026)
General endogamy .....	1.087 (.051)	1.187 (.049)	1.397 (.066)

NOTE.—Nos. in parentheses are estimated SEs.

riage. The longer a person has been out of school, the more settled he or she will be in a job, and the more strongly he or she will be embedded in the work setting as opposed to the school setting. While this measure captures potential, as opposed to real, labor market experience, I prefer it to age at marriage, which is strongly related to the length of schooling and hence to occupational status.

Because the cross-classification is large (4,900 cells), it was not possible to fit the full multinomial of spouses' occupation and time since leaving school. Instead, I estimate models A, C, and D separately for three life-cycle groups: (a) couples in which the husband married two years or less after leaving school (including husbands still in school), (b) couples in which the husband married three to six years after leaving school, and (c) couples in which the husband married seven or more years after leaving school.<sup>11</sup> Models are fitted to smoothed multinomials, where the cross-classification for all couples in a particular census, regardless of marriage order and age at marriage, are used to smooth the counts. Measures of fit are presented in table 5; parameter estimates are presented in table 6.

If occupations are less relevant for marriage selection early in the career, we would expect that the interaction structure in the table is closer to statistical independence for those who married early. Because the sample sizes vary, I rely on the BIC measure to assess deviation from independence. Table 5 shows that the independence model has the worst fit (the least negative BIC) for those who married seven years or more after leaving school. Deviations from independence are similar in the two groups of early marriers. This shows that the association between husband's and wife's occupation is stronger for people who marry late (relative to their educational career). A closer look at the hypothesis can be obtained by focusing on the parameter estimates. When considering a model for homogamy, we observe that, in both years, the economic dimension of status homogamy becomes stronger the longer people have been out of school. The cultural dimension of status homogamy, however, is not systematically affected by the delay between marriage and schooling. When considering a model for both homogamy and endogamy, we further notice that occupational endogamy increases as people gain experience in the labor market.

The differential impact of life-cycle stage can be interpreted by considering the kinds of uncertainty people face when they are searching for a spouse. On the one hand, it may be difficult for people to take economic factors into account at the time of marriage, simply because people at that age are often in the beginning of their career. Cultural tastes and

<sup>11</sup> Time since leaving school is estimated by age at marriage less years of schooling completed less six.

values, on the other hand, tend to be well developed at an early age, largely because they are so strongly shaped by the schooling process. As a result, uncertainty about people's future cultural lifestyles is probably less grave than uncertainty about their future economic status. The difference between these uncertainties declines as people marry later. This interpretation is consistent with the finding that the economic dimension of status homogamy increases in strength with the delay between marriage and schooling, while the cultural dimension of homogamy does not. That occupational endogamy increases as people have more (potential) labor market experience suggests that opportunity plays a role here as well. The longer unmarried people have been out of school, the more strongly they are embedded in a work setting, and the more likely it is that they will meet a spouse at work.

## CONCLUSION

The strong degree of assortative mating by cultural status, as measured by occupational schooling, suggests that the tendency to seek cultural similarity plays a central role in the selection process. Such preferences for similarity can be understood as an attempt to develop a common lifestyle in marriage that produces social confirmation and affection. The cultural dimension may also be more important because, at the time of marriage, there is generally less uncertainty about a person's future cultural lifestyle and tastes than there is about his or her future earnings and economic security. In a more general sense, the importance of cultural status for aggregate patterns of homogamy is difficult to reconcile with the way stratification researchers have interpreted status homogamy in the past. Although I have not provided direct evidence on competition vis-à-vis matching, the marriage patterns observed above are more in line with a view of status groups as cultural entities that keep their distance from each other than with a view of status groups as economic entities that rely primarily on exclusion to prevent lower groups from gaining access. The neo-Weberian scenario of self-elimination is in line with recent cultural critiques of the stratification literature (Lamont and Lareau 1988). Research on the American upper middle class, for example, has shown that people do not exclusively rely on criteria such as ambition, money, and socioeconomic success to judge the people that surround them (Lamont 1992). Cultural and moral differences are important in why Americans maintain distance from others, and such criteria have more to do with a differentiation of symbolic meanings than with a widely agreed-upon hierarchy of symbols.

Even though cultural status similarity is generally more salient than economic status similarity, the economic dimension, as measured by occupational earnings, is not trivial and has become more important over



time. While the time period examined here is short, these findings provide some support for the hypothesis that competition in the marriage market has increased. One interpretation of such a change lies in the sex-role revolution, and in particular in the increasing number of dual earner families and the positive relationship between education and labor force participation among married women (Sweet and Bumpass 1987). Following the logic of the new home economic approach to the family, these changes could well have made women's economic resources increasingly attractive to men, thus leading to a more symmetrical form of competition for economic resources (Schoen and Wooldredge 1989; Mare 1991). That economic status plays a more important role when people marry late (in comparison to when they left school) suggests that economic factors could become more important in the near future. This finding is particularly relevant when considering the case of highly educated women who chose to pursue career success before beginning a family. Such a gradual erosion of the traditional organization of life-course transitions could increase the degree to which economic dimensions of status govern the process of spouse selection.

Additional interpretations should be considered as well. Part of the decline in marriage rates since the 1960s is counteracted by a rise in cohabitation (Bumpass, Sweet, and Cherlin 1991). It is not yet known whether cohabitation functions as a substitute or a precursor to marriage, and most accounts suggest that there is a substantial degree of heterogeneity in the motives, backgrounds, and behaviors of those who cohabit. Nonetheless, when asked why they lived together without being married, about half the cohabiting couples answered that it allowed them to assess whether they were compatible before marriage (Bumpass et al. 1991). If cohabitators are indeed more concerned with cultural factors and less with economic ones than those who marry, the shift I observe from 1970 to 1980 may partly be due to the rise in cohabitation. If, on the other hand, cohabitation is most popular among women for whom economic independence is most important, as the new home economic approach suggests, the exclusion of unmarried couples may lead to an underestimation of the economic dimension of occupational homogamy. Research on partner similarity in cohabitation is scarce, but recent evidence suggests that unmarried partners have a greater tendency toward educational homogamy than married partners (Schoen and Weinick 1993). Whether this reflects a greater emphasis on the cultural characteristics of a spouse than on his or her economic prospects is not yet known.

## REFERENCES

- Becker, Gary S. 1981. *A Treatise on the Family*. Cambridge, Mass.: Harvard University Press.

- Becker, Mark P., and Clifford C. Clogg. 1989. "Analysis of Sets of Two-Way Contingency Tables Using Association Models." *Journal of the American Statistical Association* 84:142-51.
- Bernstein, Basil. 1971. *Class, Codes, and Control*, vol. 1. London: Routledge & Kegan Paul.
- Bishop, Yvonne M. M., Stephen E. Fienberg, and Paul W. Holland. 1989. *Discrete Multivariate Analysis: Theory and Practice*. Cambridge, Mass.: MIT Press.
- Bourdieu, Pierre. 1979. *Distinction*. London: Routledge.
- Bumpass, Larry L., James A. Sweet, and Andrew Cherlin. 1991. "The Role of Cohabitation in Declining Rates of Marriage." *Journal of Marriage and the Family* 53:913-27.
- Byrne, David. 1971. *The Attraction Paradigm*. New York: Academic Press.
- Centers, Richard. 1949. "Marital Selection and Occupational Strata." *American Journal of Sociology* 54:330-35.
- Davis, Deborah. 1981. "Implications for Interaction versus Effectance as Mediators of the Similarity-Attraction Relationship." *Journal of Experimental Social Psychology* 17:96-116.
- Davis, James A. 1982. "Achievement Variables and Class Cultures: Family, Schooling, and Forty-nine Dependent Variables in the Cumulative GSS." *American Sociological Review* 47:569-86.
- Davis, Kingsley. 1984. "Wives and Work: Consequences of the Sex Role Revolution." *Population and Development Review* 10:397-417.
- De Graaf, Nan Dirk. 1991. "Distinction by Consumption in Czechoslovakia, Hungary, and The Netherlands." *European Sociological Review* 7:267-90.
- De Graaf, Paul M. 1986. "The Impact of Financial and Cultural Resources on Educational Attainment in the Netherlands." *Sociology of Education* 59:237-46.
- De Graaf, Paul M., Harry B. G. Ganzeboom, and Matthijs Kalmijn. 1989. "Cultural and Economic Dimensions of Occupational Status." Pp. 53-74 in *Similar or Different? Continuities in Dutch Research on Social Stratification and Social Mobility*, edited by W. Jansen, J. Dronkers, and K. Verrips. Amsterdam: SISWO.
- DiMaggio, Paul, and John Mohr. 1985. "Cultural Capital, Educational Attainment, and Marital Selection." *American Journal of Sociology* 90:1231-61.
- Duncan, Otis Dudley. 1961. "A Socioeconomic Index for All Occupations." Pp. 109-38 in *Occupations and Social Status*, edited by Albert J. Reiss, Jr. New York: Free Press.
- Edwards, John. 1968. "Familial Behavior as Social Exchange." *Journal of Marriage and the Family* 3:518-26.
- Elder, Glenn H., Jr. 1969. "Appearance and Education in Marital Mobility." *American Sociological Review* 34:519-33.
- Fienberg, S. E. 1985. *The Analysis of Cross-Classified Categorical Data*. Cambridge, Mass.: MIT Press.
- Goode, William J. 1964. *The Family*. Englewood Cliffs, N.J.: Prentice-Hall.
- Goodman, Leo A. 1979. "Simple Models for the Analysis of Association in Cross-Classifications Having Ordered Categories." *Journal of the American Statistical Association* 74:537-52.
- Hope, Keith. 1972. "Marriage Markets in the Stratification System." Pp. 105-20 in *The Analysis of Social Mobility: Methods and Approaches*, edited by K. Hope. Oxford: Clarendon.
- Hout, Michael. 1982. "The Association between Husbands' and Wives' Occupations in Two-Earner Families." *American Journal of Sociology* 88:397-409.
- . 1984. "Status, Autonomy, and Training in Occupational Mobility." *American Journal of Sociology* 89:1379-1409.
- Hunt, Thomas C. 1940. "Occupational Status and Marriage Selection." *American Sociological Review* 5:495-504.

- Jacobs, Jerry J., and Frank F. Furstenberg, Jr. 1986. "Changing Places: Conjugal Careers and Women's Marital Mobility." *Social Forces* 64:714-32.
- Jones, F. L. 1987. "Marriage Patterns and the Stratification System: Trends in Educational Homogamy since the 1930s." *Australian and New Zealand Journal of Sociology* 23:185-98.
- Kalmijn, Matthijs. 1991. *From Family Origins to Individual Destinations: The Changing Nature of Homogamy in the United States*. Ph.D. dissertation. University of California, Los Angeles, Department of Sociology.
- Kaufman, Robert L., and Seymour Spilerman. 1982. "The Age Structure of Occupations and Jobs." *American Journal of Sociology* 87:827-51.
- Kerckhoff, Alan C., and Keith E. Davis. 1962. "Value Consensus and Need Complementarity in Mate Selection." *American Sociological Review* 27:295-303.
- Lamont, Michèle. 1992. *Money, Morals, and Manners: The Culture of the French and the American Upper-Middle Class*. Chicago: University of Chicago Press.
- Lamont, Michèle, and Annette Lareau. 1988. "Cultural Capital: Allusions, Gaps and Glissandos in Recent Theoretical Developments." *Sociological Theory* 6:153-68.
- Laumann, Edward O. 1966. *Prestige and Association in an Urban Community*. Indianapolis: Bobbs-Merrill.
- Mare, Robert D. 1991. "Five Decades of Educational Assortative Mating." *American Sociological Review* 56:15-32.
- Marsden, Peter V. 1988. "Homogeneity in Confiding Relations." *Social Networks* 10:57-76.
- Newcomb, Theodore M. 1956. "The Prediction of Interpersonal Attraction." *American Psychologist* 11:575-86.
- Oppenheimer, Valerie K. 1988. "A Theory of Marriage Timing: Assortative Mating under Varying Degrees of Uncertainty." *American Journal of Sociology* 94:563-91.
- Peterson, Richard A., and Albert Simkus. 1992. "How Musical Tastes Mark Occupational Status Groups." Pp. 152-86 in *Cultivating Differences: Symbolic Boundaries and the Making of Inequality*, edited by M. Lamont and M. Fournier. Chicago: University of Chicago Press.
- Porter, James N., Jr. 1967. "Consumption Patterns of Professors and Businessmen: A Pilot Study of Conspicuous Consumption and Status." *Sociological Inquiry* 37: 255-82.
- Raftery, Adrian E. 1986. "Choosing Models for Cross-Classifications." *American Sociological Review* 51:146-47.
- Rindfuss, Ronald R., C. Gray Swicegood, and Rachel A. Rosenfeld. 1987. "Disorder in the Life Course: How Common and Does it Matter?" *American Sociological Review* 52:785-801.
- Rubin, Zick. 1968. "Do American Women Marry Up?" *American Sociological Review* 33:750-60.
- Schoen, Robert, and John Wooldredge. 1989. "Marriage Choices in North Carolina and Virginia, 1969-71 and 1979-81." *Journal of Marriage and the Family* 51: 465-81.
- Schoen, Robert, and Robin M. Weinick. 1993. "Partner Choice in Marriages and Cohabitations." *Journal of Marriage and the Family* 55:408-14.
- Stevens, Gillian, and Joo Hyun Cho. 1985. "Socioeconomic Indexes and the New 1980 Census Occupational Classification Scheme." *Social Science Quarterly* 14:142-68.
- Stevens, Gillian, Dawn Owens, and Eric C. Schaefer. 1990. "Education and Attractiveness in Marriage Choices." *Social Psychology Quarterly* 53:6-70.
- Sweet, James A., and Larry L. Bumpass. 1987. *American Families and Households*. New York: Russell Sage.
- Treiman, Donald J. 1977. *Occupational Prestige in Comparative Perspective*. New York: Academic Press.

- Tyree, Andrea, and Judith Treas. 1974. "The Occupational and Marital Mobility of Women." *American Sociological Review* 39:293-302.
- Ultee, Wout C., and Ruud Luijkx. 1990. "Educational Heterogamy and Father-to-Son Occupational Mobility in 23 Industrial Nations: General Societal Openness or Compensatory Strategies of Reproduction." *European Sociological Review* 6: 125-49.
- Verbrugge, Lois M. 1977. "The Structure of Adult Friendship Choices." *Social Forces* 56:576-97.
- Werner, Carol, and Pat Parmelee. 1979. "Similarity of Activity Preferences among Friends: Those Who Play Together Stay Together." *Social Psychological Quarterly* 42:62-66.
- Winch, Robert F. 1958. *Mate Selection: A Study of Complementary Needs*. New York: Harper.

# Family Neighbors<sup>1</sup>

John R. Logan and Glenna D. Spitze  
*State University of New York at Albany*

It is argued that people's neighborhood social interaction is strongly affected by the presence of a parent or adult child in the neighborhood. Although only a minority of people have any "family neighbors," such people often have a central role in community social networks. Analysis of survey results from one metropolitan region demonstrates that much of the effect of many common predictors of neighboring (such as length of residence in the community, income, and urban/rural location) is indirect, through their effect on the number of family neighbors. Implications for the theoretical interpretation of these predictors are discussed.

In a theoretical tradition rooted in Wirth's (1938) vision of "urbanism as a way of life," the neighborhood is regarded as having diminishing importance in people's social lives. The anonymity of the modern metropolis is thought to have freed people from ties previously imposed by the local community. Its heterogeneity allows them to choose social partners based on common interests wherever they may be found: through the workplace, or voluntary associations, or as friends of friends. Distance is becoming a weaker constraint on interaction in industrial society: people can cover a wider territory in their daily routines, they can maintain contact at greater distances through telecommunications, and they are more likely to change their place of residence. The resulting social networks are not bounded by geography and have been described as "community liberated" in Wellman's (1979) terms (see also Fischer 1982).

Yet there are many reasons to expect the residential neighborhood to continue to focus people's social interaction. Spatial proximity makes it convenient to spend time with others in the neighborhood and creates

<sup>1</sup> This research was supported by the National Institute on Aging (grants R01 AGO 06831-01 and R01 AGO 08644-01). Eunju Lee and Suzanne Zerger provided research assistance. We gratefully acknowledge the assistance of Barry Wellman and Milena Gulia in preparing special tabulations from the 1968 Toronto network study for our use. Correspondence may be directed to John R. Logan, Department of Sociology, State University of New York at Albany, Albany, New York 12222.

common interests. Neighbors have the same access to jobs and shopping, they have the same exposure to crime and receive the same protection from the police, their children typically attend the same schools, they suffer the same earthquakes. Neighborhoods are often socially homogeneous, certainly more so than the metropolis as a whole. Thus neighbors typically share bonds of class, race and ethnicity, religion, and even kinship. The resulting mixture of instrumental connections, social homogeneity, and sentiment can be a powerful basis for collective action (Logan and Molotch 1987).

In this research on neighboring, we emphasize kinship because family relationships are at the core of many people's social networks. It is also well established that a large portion of family social interaction is highly localized. Though there has been a trend away from coresidence by older parents and their adult children, a substantial proportion of parents live near at least one of their children. As Shanas (1979, p. 6) notes, "They now live next door, down the street, or a few blocks away." National surveys have found that between 15% (Moss, Moss, and Moles 1985, based on 1969 data) and 25% (Lawton and Silverstein [1992], based on 1987 data) of adults with living parents reside within one mile of a parent. This is in addition to those who coreside with parents. As many as 18% of parents 65 years old and older lived with a child in 1984, and of those not living with a child, 40% lived within 10 minutes of at least one child (Crimmins and Ingegneri 1990; see also Cantor 1979).

Further, research on intergenerational relations has demonstrated "the overwhelming importance of distance as a determinant of parent-child interaction" (Crimmins and Ingegneri 1990, p. 10). In one study, for example, the share of parents with daily face-to-face contact with an adult child with whom they were not living (noncoresident) was 51.5% for those living in the same neighborhood, dropping to only 11.4% at a distance of between two and 10 miles (Moss et al. 1985). Rossi and Rossi (1990) report zero-order correlations as great as  $-.80$  between frequency of visiting and distance. In regression models predicting frequency of intergenerational contact, distance is typically the single most important predictor, accounting for as much as half of the explained variance (Dewit, Wister, and Burch 1988; Crimmins and Ingegneri 1990; Lawton and Silverstein 1992; Wolf et al. 1983).

These considerations imply that "family neighbors" may play a pivotal role in social interaction within the neighborhood. One recent study of neighboring networks (Campbell and Lee 1992) found that having kin living nearby significantly increased the duration, frequency, and closeness of ties with neighbors. But just as there is debate over whether neighboring of any form is still prominent in social networks, there is

also doubt about the continued importance of the family in neighboring. In his review of the literature, for example, Wellman (1990) downplays this role. Though he acknowledges that people often have one or two intimate relatives in their neighborhood, he concludes that the pattern in which "many kin—extended as well as immediate—live nearby, visit often, and rely heavily on each other for support" is uncommon. "Most local ties are with neighbors and not kin, and it is neighbors and friends who provide most support and companionship" (1990, p. 207). Like Wellman, most urban sociologists seem to regard family neighbors as a carryover from traditional urban working-class or minority neighborhoods, such as those of inner London described by Young and Willmott (1957). Similarly, family sociologists, while recognizing that some kin networks are still rooted in neighborhoods, have emphasized the emergence of a new kind of family. For example, Litwak's concept of the "modified extended family" is distinguished from "past extended families in that it does not require geographic propinquity" to function (Litwak 1960, p. 385).

We contribute to these debates in two ways. First, using a random sample of persons who are old enough (40 years old and older) to have adult children, we provide estimates of the relative weight of family neighbors, nonfamily neighbors, family outside the neighborhood, and friends outside the neighborhood in people's routine social interactions. The category of family neighbors has not been studied in this way in the past. Research on intergenerational relations has distinguished between family members at different distances, but has not compared family and nonfamily interaction within the neighborhood. Studies of general social networks provide information on both family and nonfamily network members, but usually do not distinguish between geographically proximate and distant kin. Urban researchers typically count neighbors as a single category regardless of kinship.

Second, we estimate causal models where the presence of family neighbors (as well as the number of nonfamily neighbors known by the respondent) is assigned a key mediating role between a variety of personal characteristics and neighborhood interaction. This general scheme is illustrated in figure 1. Our models assume that the number of family neighbors and the number of other neighbors known by the respondent should themselves be understood as sources, or causes, of neighborhood interaction. This assumption is most plausible for family neighbors: residential patterns bringing families together or separating them (e.g., moves in response to marriage, schooling, or employment) are likely to be causally prior to the level of social interaction among family members. It is also reasonable to presume that interaction with other neighbors begins with

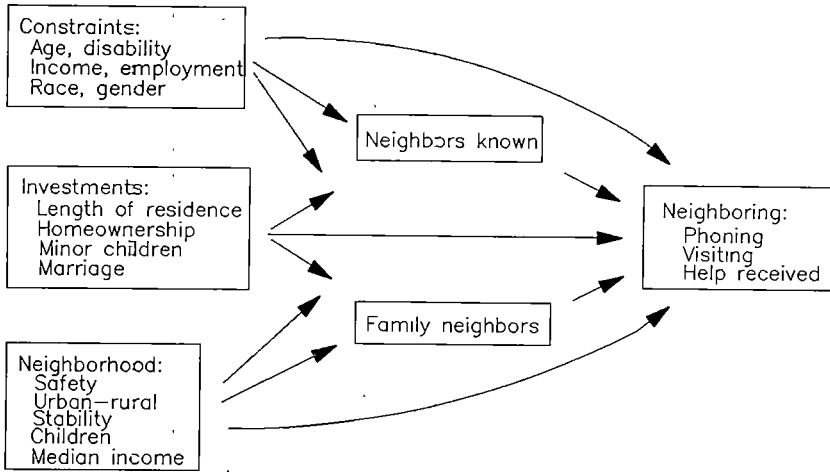


FIG. 1.—Illustrative model predicting neighboring via number of neighbors and family neighbors.

meeting them and that the more neighbors one gets to know by name, the more likely one is to spend time with some of them. (To some extent, of course, one might argue that social integration within a neighborhood, perhaps associated with family networks, might keep people within the area. And one may get to know more neighbors by name as a byproduct of spending time with some of them.) Laying out the causal structure in this way allows us to estimate the relative effects of family neighbors and nonfamily neighbors on total social interaction in the neighborhood. It also reveals that a number of other variables thought to affect neighboring do so only indirectly, especially through their effects on the presence of family neighbors.<sup>2</sup>

## MODELS OF NEIGHBORHOOD INTERACTION

The linkage between kinship and community was explicitly recognized in the Chicago school of urban sociology. In the line of thought represented by Louis Wirth, as noted above, urbanization was believed both to undermine community ties and to weaken bonds of kinship. Another

<sup>2</sup> The general form of our causal model, in which the number of family neighbors and other neighbors mediates the effects of other variables on neighboring, is similar to that postulated by Kasarda and Janowitz (1974) and Sampson (1991). In those studies, however, the ultimate dependent variable is a global measure of community attachment or sentiment rather than behavioral measures of interaction.



group of Chicago sociologists, including Thomas, Park, and Burgess, put forward what Kasarda and Janowitz (1974) describe as a “systemic model” of local solidarity. In this model, “the local community is viewed as a complex system of friendship and kinship networks” as well as “formal and informal associational ties *rooted in family life* and on-going socialization processes” (Kasarda and Janowitz 1974, p. 329; our emphasis).

Such contrasting views were the basis for these authors’ classic study of community attachment. Following Wirth, they hypothesized that greater urban size and density would be associated with smaller local networks of both family and friends and, consequently, with weaker community attachment. Following the systemic model, they expected that length of residence would be the key factor, as time leads naturally to larger local networks and stronger attachment.

Most subsequent research on neighboring has not distinguished between kin and friends, including all interaction in the local area as “neighboring.” These studies have, however, followed the lead of Kasarda and Janowitz in exploring the Chicago school’s contrasting theoretical perspectives, adding other pertinent variables to the model. Some variables, in our reading of the literature, mostly represent neighboring as a residual form of social interaction, associated with *constraints* on extralocal contacts or lack of resources to build extralocal associations. Others reflect positive commitments or *investments* made in the neighborhood, more in line with the systemic theory. Although our research is focused primarily on the role of the family in neighborhood interaction, our analytical models include the key variables discussed in this literature.

### The Residual Neighborhood

The term “residual neighborhood” refers both to the assumed decline in the neighborhood’s importance over time and to the hypothesis that neighboring is an alternative form of socializing for people who do not have access to broader networks. It is operationalized first of all as the effects of urban size and density on neighboring (though Kasarda and Janowitz [1974] found no such effects, studies by Fischer [1982], Sampson [1991], and others have found that social interaction in urban—as compared to suburban or rural—neighborhoods is low). Several personal characteristics are interpreted as indicators of limited opportunities. These include financial need, minority racial status, employment, and gender (these are discussed at length by Campbell and Lee [1990, 1992]). In the gerontological literature, the elderly, with their reduced mobility,

have been characterized as more dependent on their local environment than younger people (Lawton and Simon 1968; Carp 1976; Rowles 1978). This would lead to greater social interaction within the neighborhood for older people. The effects of age and health are also found in research on residential choices made by parents and children. Although older people are likely to live farther from their adult children as a normal life-cycle process (Lawton and Silverstein 1992), changes in the parent's health or disability status are strong predictors of their residential mobility (Speare, Avery, and Lawton 1991), and parent's functional disability is negatively associated with distance from children (Crimmins and Ingegneri 1990). These results imply that some older persons move in order to live closer to family members who can provide needed help (Litwak and Longino 1987).

### Neighboring as an Investment

The alternative view is that community is naturally generated by daily routines and the investment that people make in local ties. The main variables that have been suggested as indicators of these investments are length of residence, homeownership, and marital and family status.

Kasarda and Janowitz themselves argue that "new generations and newcomers" are naturally assimilated into the social networks of local communities over time, and they find that length of residence is the strongest predictor of number of local friends, number of local relatives, and various measures of community attachment (see also Campbell and Lee 1992; and Sampson 1991). Homeownership is widely considered to represent a concrete material interest in the community, leading to more involvement in local social networks (Blum and Kingston 1984; Pratt 1986; Forrest and Alan 1991). Finally, marriage and childbearing have also been discussed as possible sources of local community attachment (Campbell and Lee 1992; Fischer 1982; Hurlbert and Acock 1990; Sampson 1991).

### RESEARCH DESIGN

Our analysis is based on a random sample of residents in the Albany-Schenectady-Troy, New York, metropolitan area. This region shares many population and economic characteristics of moderate-sized metropolitan areas in the Northeast and North Central United States. These include a declining manufacturing base, relative decline and recent partial rejuvenation of central city neighborhoods, and substantial suburbanization encompassing several industrial satellite towns. Among the

area's suburbs are older and recently growing neighborhoods, dormitory suburbs and employment centers, affluent and poor communities. Outlying areas are largely rural. Thus, although no single area can fairly represent the diversity of situations across the country, this region represents a common situation.

Personal interviews were conducted during a six-month period from September 1988 through February 1989. We interviewed 1,200 persons 40 years old and older. The average interview lasted approximately one hour. The sampling design included random selection of 120 of 607 possible census block groups in the three counties, with probabilities proportionate to size. Within each block group, interviewers selected housing units and adults in the household using random choice methods. The overall cooperation rate was 67.3%. In the remaining cases, either the selected person could not be contacted, the selected person could not be interviewed for reasons of language or frailty, the selected person declined to be interviewed, or someone refused on his or her behalf. The racial, age, and socioeconomic distribution of respondents closely matches that of the target population.

The age range of the sample results from the purposes of the broader study of which it is a part, which focuses on intergenerational relationships involving middle-aged and older people. The sample includes a large majority of people who have adult children and people whose parents are near or beyond retirement age. The omission of people under 40 years of age affects our findings on some important life-cycle correlates of neighboring. For example, very few of our respondents have young children, so that the variable "children under 18 at home" refers only rarely to preschool children. Our sample includes larger proportions of homeowners and of people with longer residence in their neighborhoods than would be true of the entire adult population. Therefore our estimates of the effects of these two variables are likely to be different than in the whole population.<sup>3</sup>

<sup>3</sup> It would be useful to replicate this study with a sample including the full range of adult ages. Other surveys of which we are aware, while covering a wider age range, have more limited information on various types of network members. For example, the National Survey of Families and Households combines help from friends, neighbors, and coworkers into a single category and has very limited measures of contact with these people. The initial Toronto survey by Wellman (1979) is limited to providing information on up to seven network members. Wellman has generously provided some unpublished comparative data from that survey, based on those seven identified persons, which shows that younger (under 40 years old) and older (40 or older) persons have a similar distribution of these intimate network members across categories of location (within or beyond the neighborhood) and relationship (family, friends, neighbors, etc.). Younger persons report modestly higher numbers of parents and children (both within and beyond the neighborhood) than do older persons, but they are less likely to report help from either. They report more visiting and phone/letter contact

### Measures of Contact and Help

Members of people's potential support networks are categorized in this study as adult children (18 years old and older) or parents, other relatives in the metropolitan region, neighbors, and friends outside the neighborhood. Respondents were asked whether they have any living children or stepchildren, their ages, where they live, and how often they visit or talk with them on the telephone. They were asked the same questions about every parent, stepparent, and parent-in-law. They were asked how many other relatives they "see or hear from regularly" who live in the metropolitan area, how often they visit "with any of these relatives" or talk to them on the telephone. Regarding neighbors, they were asked how many neighbors they knew "well enough to greet by name" and how often they visit or talk on the telephone with "any of your neighbors." Finally, they were asked how many friends they had "who live in the Albany-Schenectady-Troy area, but not in your neighborhood," and how often they visit or talk on the telephone with "any of them."

Because its distribution is highly skewed, the number of neighbors is logged when it is included as a dependent or independent variable in regression models. Children and parents include relatives by marriage. They are further categorized according to their place of residence. Coresiding family members are not counted.<sup>4</sup> Those living "within walking distance" are considered to be "family neighbors."<sup>5</sup> No additional information is available on the place of residence of other relatives; therefore family neighbors include only parents and adult children, which should result in a conservative evaluation of the phenomenon of family neighboring.<sup>6</sup>

---

with parent/child neighbors, and less with parents and children beyond the neighborhood, than do older persons.

<sup>4</sup> We have studied the phenomenon of coresidence separately (Ward, Logan, and Spitze 1992). We have no contact measures for coresiding family members. Because coresiding family members are assumed to have very high levels of interaction and sharing of tasks, their situation is not comparable to that of family neighbors.

<sup>5</sup> An alternative classification, based on living "within five minutes distance," would include a slightly larger number of persons, but otherwise lead to no different conclusions. We use the more restrictive definition of "walking distance" here.

<sup>6</sup> Here again unpublished results from the Toronto survey are available to suggest the extent of the underestimate. Persons 40 years old and older were more than twice as likely to identify a sibling or other close relative within the neighborhood than to identify a parent or adult child within the neighborhood among their seven most intimate associates. Measures of contact and help were nevertheless higher (by 30%–40%) for neighboring parents/children than other family neighbors. These results suggest that including siblings and others in our measure of "family neighbors" would substantially increase our estimates of the importance of family neighbors. The

Limiting consideration of other categories of network members to people within the region probably has little effect on our subsequent estimates of helping relationships, because the kinds of help studied here generally require physical presence. But it does reduce the estimates of contact with friends and other relatives shown in table 1 below, especially phoning, which is much less affected by proximity than are visiting and helping.

Information on contact was gathered for parents and children from a series of questions about every living parent (or parent-in-law) and child (including those living outside the region). The frequency of telephone calls and visits with each person is coded on a scale ranging from "daily" to "once per year" or "never." These values are recoded to a frequency per month (based on the midpoint of the interval, ranging from 0 to 30) and summed across individuals. (Contacts with parents or children who live with a spouse are counted as a single contact, even though both husband and wife might be seen or spoken to.)

Information on contact with other relatives, neighbors, and friends was asked for the category as a whole, rather than for each relative, neighbor, or friend separately. Asking about these latter persons as a category may lead to an underestimate of phoning and visiting with them, compared to a procedure in which numerous individuals would be identified by name and asked about individually. This potential problem does *not* affect the indicator of help received. Help is measured through a series of questions about the respondents' completion of daily tasks. These tasks include grocery shopping, cooking, laundry, transportation and errands, yard work and home repairs, cleaning, personal care and help in case of illness, and child care. Respondents were asked "Who does this?" and "Does anyone else help?" for up to a total of four persons. For every named helper, respondents were asked, "In an average week, taking all of these jobs together, how many hours would you say [this person] spends doing these kinds of things for your household?" These values were calculated for each individual helper (regardless of relationship to the respondent), summed across categories of helper, and expressed in minutes per week in table 1. This variable is highly skewed, and its logged form is used in the regression equation reported in table 3 below.

---

Toronto data also provide evidence of how the methods of data collection affect results. Limiting data collection to seven network members yields a much smaller number of parents and children within the neighborhood than we report, as well as much smaller estimates of interaction with them. For example, we find an average of 3.46 visits per month with parent/child neighbors vs. .41 per month in the Toronto study. This number also constitutes a smaller proportion of total reported visiting in the Toronto study than in ours.

### Predictors

Measures of constraints and resources include age, household income, functional disability, and gender. Because of the age range of our sample, age (measured in years) generally contrasts middle-aged people with older people. Income is measured in thousands of dollars, recoded from 17 categories of household income; persons are assigned the midpoint of the category in which their income falls. Where income is not reported, its value is set to the mean value, and a dummy variable for missing income information is also included (coded "0" where income is reported, "1" where income is not reported). Functional disability is measured by an index of four questions regarding going outdoors, walking up and down stairs, getting around inside the house, and doing cleaning or household chores; disability is the number of these activities for which some difficulty is reported. Gender is coded "0" for men and "1" for women.

Measures of investment in the locality are length of residence (in years) and dummy variables representing homeownership, marital status, and presence of children under 18 years of age in the household.

All of these variables are measured for individual respondents. Some sociologists have argued that there may also be contextual effects on neighboring. For example, regardless of how long an individual has lived in a neighborhood, his or her ties to other neighbors may be stronger if the neighborhood as a whole has a more settled population (Sampson 1991). Campbell and Lee (1992) find that people know more of their neighbors in neighborhoods with higher average income levels and more children. We include three neighborhood-level variables, which are based on information for the block group in which respondents lived as reported in the 1990 census of population and housing: (1) residential stability (the proportion of residents in 1990 who had lived in the block group for more than 10 years), (2) median household income, and (3) neighborhood children (proportion of families with children under 18 years of age). Other contextual variables were examined in preliminary analyses but yielded no significant effects.

The variables of size and density are represented here as an urban-rural dimension: this is a pair of dummy variables representing rural and sub-urban locations, with central city locations treated as the omitted category. In the Wirthian tradition, urban-rural differences would be interpreted in terms of the alienation of urban living. We note, however, that they can also be interpreted in terms of opportunities. People in urban areas have greater opportunities for interaction outside the neighborhood because of shorter distances and better transportation networks. They may also (as in some depictions of elderly shut-ins in inner cities) choose not to spend much time in the neighborhood outside their own homes,

TABLE 1  
COMPOSITION OF PEOPLE'S SUPPORT NETWORKS

	No.	No. of Phone Calls per Month	No. of Visits per Month	Minutes of Help per Week
Family neighbors .....	.3	2.9	3.4	25
Family beyond neighborhood .....	2.5	14.9	8.8	50
Other relatives .....	8.2	5.0	2.6	14
Friends .....	21.6	6.5	3.1	24
Neighbors .....	12.6	3.8	3.8	4

NOTE.—Mean values for persons 40 years old and older.  $N = 1,200$ .

because of fear of crime (Fischer 1982; Sampson 1991). To test this hypothesis, we include another contextual variable drawn from the survey. *Perceived safety* is a four-point scale in response to the question, "How safe do you feel being out alone in your neighborhood?"

## FINDINGS

Family neighbors are fairly common in our sample; their frequency (taking into account the age composition of the sample) is consistent with national estimates. In our sample 15% of respondents have an adult child and 7% have a parent living within the neighborhood. These figures include people with no living parents or children or people whose parents and/or children live with them. Of those with at least one (noncoresident) adult child, 21% have a child in the neighborhood, and of those with at least one living (and noncoresident) parent, 15% have a parent in the neighborhood.

### Neighborhood and Family in Social Networks

We turn now to the question of how the neighborhood, including both family and nonfamily members, fits into people's social networks. Table 1 classifies network members into categories that we shall refer to as *family neighbors* (parents and children in the neighborhood), *neighbors* (nonrelatives in the neighborhood), *other family* (parents and children beyond the neighborhood), *relatives* (additional kin within the metropolitan region regardless of where they live), and *friends* (nonrelatives living within the metropolitan area but outside the neighborhood). It reports the average number of persons, the average number of visits and telephone conversations per month, and the average number of minutes of help per week received from persons in each category.

Note first of all that the average number of friends (21.6) is much higher than any other kind of network member, followed by neighbors (12.6) and relatives (8.2). (The number of neighbors is near the average of 14.7 reported by Campbell and Lee [1992]). The average number of nearby parents and children is only .3, with 2.5 parents and children beyond the neighborhood. In sheer numbers, family neighbors constitute the smallest fraction of people's social networks.

Telephone contact is strongly oriented toward family outside the neighborhood (14.9 calls per month). Friends account for the next highest number (6.5), followed by relatives (5.0), neighbors (3.8), and family neighbors (2.9). Visiting is also most frequent with family outside the neighborhood (8.8 visits per month). But here the effects of proximity seem to come into play, as neighbors (3.8) and family neighbors (3.4) account for more visits than friends (3.1) or other relatives (2.6).

Finally, routine help with daily activities is once again most likely to be received from family outside the neighborhood (50 minutes per week). Family neighbors provide the next largest share (25 minutes), followed by friends (24 minutes) and relatives (14 minutes). Neighbors—much more significant in numbers and frequency of social interaction—provide an average of only four minutes of help per week.

Further insight into the composition of support networks is provided in table 2, which reports the proportion of respondents who report receiving help on a regular basis from each of these sources. Help is further categorized into grocery shopping, meal preparation, doing laundry, transportation and errands, yard work and house repairs, housecleaning, personal care or care when sick, and (for those who have younger children) babysitting. The most common categories of help are personal care,

TABLE 2  
PROPORTION OF RESPONDENTS RECEIVING HELP ON SPECIFIC TASKS

TASK	SOURCE OF HELP				
	Family Neighbors	Other Family	Other Relatives	Friends	Neighbors
Grocery shopping .....	.06	.06	.03	.01	.01
Meal preparation .....	.03	.03	.01	.01	.00
Laundry .....	.04	.03	.01	.00	.00
Transportation and errands .....	.10	.09	.05	.04	.01
Yard work and repairs .....	.13	.11	.05	.02	.02
Housecleaning .....	.04	.04	.02	.00	.00
Personal care .....	.16	.15	.05	.04	.02
Babysitting .....	.03	.02	.01	.01	.00



yard work and house repairs, and transportation and errands. In every category, the most common source of help is family neighbors, followed by (or equaled by) parents and children who live outside the neighborhood. Respondents were much less likely to name another relative for any of these tasks and were least likely to name a person whom they identified simply as a friend or neighbor.

These results are pertinent to the "community liberated" observation that modern social networks are heterogeneous and bounded neither by proximity nor by kinship. Although we do not have information here about trends over time, it appears that friends do play a significant role in social networks, with large numbers of friends accounting for a substantial share of telephone contact and more modest shares of visiting and helping. Neighbors are less important than friends, being smaller in number and (if we combine telephoning and visiting) participating less frequently in social interaction and helping.

Yet the difference between friends and neighbors is dwarfed by the dominant role of parents and children. Though fewer than friends in number, these family members provide the lion's share of contact and help to our respondents. Further, demonstrating the joint effects of kinship and proximity, *family neighbors* contribute contact and help vastly out of proportion to their numbers. Recall that the majority of respondents had no parent or child in the neighborhood, yet family neighbors account for approximately one-sixth of all visits and over 20% of the routine help received.

### Predicting the Number of Neighbors and Family Neighbors

Means and standard deviations of all variables included in the analysis are provided in table 3. Table 4 presents the results of multiple regression equations in which the number of neighbors (logged) and the number of family neighbors are predicted by various personal and neighborhood characteristics.<sup>7</sup> Several variables have significant effects (at the .05 level) in both equations, but two of these have opposite effects in the two equations.

Length of residence in the neighborhood is by far the best predictor of the number of neighbors known (with a standardized regression coefficient, or  $\beta$ , of .324). Length of residence is also a strong predictor of the number of family neighbors. These effects are supportive of the systemic

<sup>7</sup> We also estimated a logistic regression equation for number of family neighbors, which has a value of zero for more than half of the sample. The logistic form yields the same substantive results; we present the OLS equation because it facilitates calculation of direct and indirect effects in a path-analytic framework.

TABLE 3  
MEANS AND STANDARD DEVIATIONS OF VARIABLES

	Means	SD
Constraints:		
Age .....	58.2	12.5
Disabilities .....	.46	1.13
Income (\$) .....	29,020	22,563
Income missing .....	.11	.31
Employed .....	.51	.50
Nonwhite .....	.06	.24
Female .....	.63	.48
Investments:		
Years in neighborhood .....	4.9	1.3
Homeowner .....	.80	.39
Children at home .....	.39	.83
Married .....	.57	.49
Neighborhood context:		
Suburban .....	.21	.41
Rural .....	.12	.32
Perceived safety .....	3.3	.7
Median income (\$) (1990) .....	33,575	12,764
Residential stability (1990) .....	.58	.15
Neighborhood children (1990) .....	.49	.13
Neighboring:		
Neighbors known(ln) .....	2.04	1.01
Family neighbors .....	.30	.71
Phoning per month .....	7.20	12.27
Visits per month .....	7.27	12.25
Help received in minutes per week [ $\ln(x + 1)$ ] .....	.44	1.49

view of community (and are the same as reported by Kasarda and Janowitz [1974]): people who remain longer in a neighborhood develop larger local networks, and they are more likely to live in proximity to their parents and/or adult children.

On the other hand, we also find significantly larger neighborhood networks—both family and nonfamily—for people in rural areas, compared to central cities. This result is unaffected by our inclusion of other neighborhood variables in these equations. Here our finding is more consistent with the Wirthian view.

Age has a significant negative effect on number of family neighbors ( $P < .01$ ) but not on number of nonfamily neighbors known. This result does not sustain the thesis that older persons are more dependent on the neighborhood for social support. We believe that the effect of age on

TABLE 4  
PREDICTING THE NUMBER OF NEIGHBORS KNOWN BY RESPONDENTS (NATURAL LOG)  
AND THE NUMBER OF FAMILY NEIGHBORS

	NEIGHBORS KNOWN(ln)		FAMILY NEIGHBORS	
	Unstandardized Coefficient	$\beta$	Unstandardized Coefficient	$\beta$
Constraints:				
Age .....	-.003	-.042	-.005**	-.099
Disabilities .....	-.047*	-.053	.020	.032
Income (\$1,000s) .....	.005***	.115	-.003***	-.111
Income missing .....	.021	.006	-.082	-.036
Employed .....	-.070	-.034	.062	.044
Nonwhite .....	-.437***	-.104	.429***	.145
Female .....	-.040	-.019	.015	.010
Investments:				
Years in neighborhood .....	.236***	.324	.047***	.093
Homeowner .....	.141*	.055	-.086	-.047
Children at home .....	.082**	.067	-.010	-.012
Married .....	.010	.005	.083*	.057
Neighborhood context:				
Suburban .....	.040	.016	.040	.023
Rural .....	.043***	.124	.028***	.115
Perceived safety .....	.061*	.046	-.032	-.035
Median income .....	.002	.022	-.004**	-.070
Residential stability .....	.007***	.100	-.001	-.026
Neighborhood children .....	-.007***	-.089	.003*	.055
Constant .....	.501		.581	
R <sup>2</sup> .....	.177		.073	

NOTE.— $N = 1,187$ .

\*  $P < .10$ .

\*\*  $P < .05$ .

\*\*\*  $P < .01$ .

family neighbors reflects normal life-cycle transitions: people are more likely to move away from the parental home as they grow older, and their parents are more likely to have died.

One family characteristic has a significant effect. People with minor children living in their home know a larger number of their neighbors. This effect seems consistent with the hypothesis that having children at home intensifies people's investment in the neighborhood.

The effects of income and race are more difficult to interpret. Whites and higher-income residents are less likely to have family neighbors, which supports expectations based on their (presumed) greater residential mobility and opportunities for extralocal and extrafamilial contacts. But

they know more nonfamily neighbors. This result suggests that—at least with regard to differences by social status—these two sorts of neighborhood contacts have different origins. Living in the same neighborhood as a parent or child may be more directly and concretely affected by the constraints experienced by less affluent and minority persons. These constraints are external to the person rather than choices or preferences associated with their status. Perhaps, then, it is family neighbors, and neighboring associated with kinship, that have supported sociologists' image of the solidary ethnic or working-class neighborhood. But although higher-status people may well be more residentially mobile, they nevertheless know more of their (nonkin) neighbors. (Another possible interpretation is that minorities and poor people know fewer of their neighbors because they tend to live in less secure surroundings, but direct measures of neighborhood context are controlled in these equations).

Aside from urban-rural differences, there are further differences among neighborhoods based on their residential stability, income, and presence of children, and these contextual effects are independent of the effects of these same variables measured at the level of individuals. Two of these are in the expected direction. Our respondents who live in neighborhoods where a higher proportion of residents have a tenure of at least 10 years (i.e., more stable neighborhoods) know more of their neighbors. Thus *both* the longer one lives in the neighborhood *and* the longer one's neighbors stay in the neighborhood, the more local ties are maintained. Also, those who live in higher-income neighborhoods, independent of their own income, have fewer family neighbors.

Surprisingly, respondents in neighborhoods with more children know fewer of their neighbors by name, even though having young children at home increases the size of the neighbor network. We cannot offer a simple interpretation of this result. We have not identified any other neighborhood characteristic for which age composition may be serving as a proxy—its effects are robust regardless of other variables included in the model. Perhaps the age composition of our sample has some relevance. Because all of our respondents are at least 40 years old, the presence of large numbers of children in the neighborhood may indicate a generational gap between respondents and other residents. One test of this interpretation is whether the proportion of older residents (such as the proportion 65 years old and older) has a positive effect on neighboring; but it does not.

Other variables that have been identified in the literature—gender, marital status, physical disability, employment, homeownership, and perceived safety—have marginal ( $P < .10$ ) effects at most. People who perceive their neighborhood as safe and those who are homeowners know a slightly larger number of neighbors; those with physical disabilities

know slightly fewer. Married persons are likely to have more family neighbors than unmarried persons, but in additional analyses we found that this small effect is explained by the larger number of family members (including parents-in-law and adult children) available to married persons.<sup>8</sup>

### Predicting Interaction in the Neighborhood

We proceed in table 5 with equations predicting social interaction and help from neighbors (including both family and nonfamily neighbors). These equations include the effects of the number of *family neighbors* and *other neighbors* known. We view these as intermediary variables through which other personal and contextual characteristics may affect neighboring.<sup>9</sup>

Table 5 shows that these two variables—and predominantly family neighbors—are in fact the primary determinants of phoning, visiting, and helping within the neighborhood. The standardized coefficients for number of family neighbors are in the range of .440–.568, far larger than the coefficients of other variables. The number of other neighbors known also has standardized coefficients above .10 for phoning and visiting, although (not surprising in light of the rarity of help from nonfamily neighbors) it does not significantly affect help received.

There are few other significant predictors in these models. There is a gender difference in telephone contact within the neighborhood. Because there is no gender effect on visiting or help received, we interpret this finding as an indicator of the gender typing of telephoning rather than (as suggested in the neighboring literature) a reflection of social or time constraints on women. Phoning is also more frequent in suburban and rural areas than in central city neighborhoods.

With respect to visiting, there is a positive effect of length of residence, which was expected. Other coefficients, however, are surprising. First,

<sup>8</sup> When the number of living parents and children is introduced into the equation for number of family neighbors, it has a strong positive effect. The coefficient for marital status is not significant; coefficients for other predictors remain about the same. When this variable is introduced into the equation for number of other neighbors known, it is not statistically significant.

<sup>9</sup> An alternative approach would be to estimate models of interaction with family neighbors and other neighbors separately. Combining the two allows us to test the relative importance of the number of family neighbors and other neighbors on total neighborhood interaction. Also, in light of the current literature on intergenerational relations, a focus on family neighboring alone would lead us to model interaction with each local parent or child individually, incorporating much of the same information on the parent/child (e.g., age, gender, health, SES) as is included here about the respondent.

TABLE 5  
PREDICTING SOCIAL INTERACTION IN THE NEIGHBORHOOD

	PHONING		VISITING		HELP RECEIVED(ln)	
	Unstandardized Coefficient	$\beta$	Unstandardized Coefficient	$\beta$	Unstandardized Coefficient	$\beta$
Local network:						
Family neighbors .....	9.779***	.568	9.650***	.562	.922***	.440
Other neighbors(ln) ....	1.724***	.142	1.260***	.104	.002	.001
Constraints:						
Age .....	.022	.023	-.034	-.035	.007	.062
Disabilities .....	.223	.021	-.021	-.002	.090**	.068
Income (\$1,000s) .....	-.006	-.011	-.035**	-.066	-.001	-.008
Income missing .....	.424	.010	-.002	-.001	-.047	-.009
Employed .....	-.806	-.032	-1.099	-.044	-.119	-.040
Nonwhite .....	1.398	.027	-1.145	-.022	-.293*	-.047
Female .....	1.250**	.049	.155	.006	.085	.027
Investments:						
Years in						
neighborhood .....	.278	.031	.479**	.054	.010	.009
Homeowner .....	-.919	-.029	-2.209***	-.067	.133	.035
Children at home .....	.117	.008	-.441	-.030	.112**	.062
Married .....	-.354	-.014	.031	.001	-.282***	-.093
Neighborhood context:						
Suburban .....	1.637**	.055	1.106	.037	.111	.030
Rural .....	.300***	.071	.109	.025	.010	.019
Perceived safety .....	.437	.027	.679*	.043	-.041	-.021
Median income						
(\$1,000s) .....	-.015	-.016	-.016	.017	.001	.011
Residential stability ....	.001	.001	.016	.020	.001	.010
Neighborhood						
children .....	-.038	-.040	-.074***	-.079	-.002	-.024
Constant .....	-1.339		5.412		-.081	
R <sup>2</sup> .....	.377		.357		.221	

NOTE.— $N = 1,187$ .

\*  $P < .10$ .

\*\*  $P < .05$ .

\*\*\*  $P < .01$ .

homeowners visit their neighbors less frequently, which seems to contradict the finding that they know a larger number of their neighbors. Second, higher-income persons visit less, despite knowing a greater number of neighbors by name. Third, persons in neighborhoods with more children visit less often, again contradicting the theory that children promote neighboring.

Finally, three other variables have significant effects on help received. People with physical disabilities receive more help from within the neighborhood—surely a reflection of their need for assistance—but married people receive less. Since spouses are the single most common source of

TABLE 6  
DIRECT AND INDIRECT EFFECTS OF MAJOR PREDICTORS ON  
SOCIAL INTERACTION IN THE NEIGHBORHOOD

	Direct Effect	Indirect via Family Neighbors	Indirect via Other Neighbors	Total Effect
Effects on telephoning:				
Rural location .....	.071	.065	.017	.153
Length of residence .....	.031	.052	.046	.129
Nonwhite .....	.027	.082	-.014	.095
Income .....	-.011	-.063	.016	-.058
Female .....	.049	.005	-.002	.052
Median income .....	-.016	-.039	.003	-.052
Effects on visiting:				
Length of residence .....	.054	.052	.033	.139
Income .....	-.066	-.062	.011	-.117
Rural location .....	.025	.064	.012	.101
Age .....	-.035	-.055	-.004	-.094
Homeowner .....	-.067	-.026	.005	-.088
Neighborhood children .....	-.079	.031	-.009	-.057
Effects on help received:				
Rural location .....	.019	.050	.000	.069
Married .....	-.093	.025	.000	-.068
Children at home .....	.062	.005	.000	.067
Income .....	-.008	-.048	.000	-.056
Length of residence .....	.009	.041	.000	.050

help, marital status is an indicator not of investment in the neighborhood but of availability of a helper. People with minor children receive more help, which could reflect their need for babysitting help.

It is striking that several predictors that have strong effects on neighbors known and on number of family neighbors have no effect, mixed effects, or weaker effects on measures of social interaction. The strongest effects of many variables are indirect, mostly through number of family neighbors as an intervening variable. To emphasize this conclusion, we have decomposed the associations between these variables and indicators of social interaction in table 6. The "total effect" of each variable is divided into its direct effect, its indirect effect through its effect on the number of family neighbors, and its indirect effect through number of other neighbors known. Table 6 includes only variables whose total effect is .050 or higher for a given measure of neighboring, and predictors are ordered by the size of their total effect.

For example, table 6 shows that, mostly because they know more neighbors and have more family neighbors, long-time residents have

more neighborhood social interaction (i.e., the nonsignificant direct path from length of residence to phoning is .031, compared to a total indirect effect of .098; its direct effect on visiting is .054, compared to an indirect effect of .085; and its indirect effect on helping is .041 compared to a negligible direct effect). People in rural areas also have more neighborhood interaction via indirect effects (supplementing a significant direct effect on phoning). Overall, higher-income people do less neighboring because of the strong negative indirect effect through number of family neighbors (plus a negative direct effect on visiting). In short, these decompositions show that direct effects are mostly overshadowed by indirect effects in this analysis of neighborhood social interaction.

## DISCUSSION AND CONCLUSION

We have focused on the role of family neighbors in community social networks. Our empirical research is limited to a single metropolitan area and may be affected by regional differences of which we are unaware. The results may also depend on the age range of people who were studied. The cohort of persons born after 1948 (when the youngest of our respondents was born) is likely to have fewer children than previous generations (though their parents are likely to live longer). They may also be more geographically mobile. These or other factors could lead to different patterns of social interaction in the future than we identified here. But if our findings are confirmed by other studies, the implications for sociological theory are broad. This is because family neighbors represent two kinds of traditional social ties: those based on kinship and those based on proximity. Both of these have been described by influential theorists as being in a long-term decline. Their survival as key elements of social networks would lead us to question such observations.

We find that the majority of people 40 years old and older have no parents or adult children living in their neighborhood, and even when they do, the number of those children is very limited. Yet despite their small numbers a substantial share of all social interaction with nonhousehold members—in the range of 15%–25%—is with family neighbors.

We have examined closely the role of local parents and children in neighboring. In our sample nearly half of the average person's *neighborhood* telephone and visiting contacts are with parents and children, and people are much more likely to receive help with routine tasks from family neighbors than from other neighbors. Further, the best predictor of all three forms of neighborhood interaction is the number of family neighbors; the number of other neighbors known is important but subsidiary to this central factor. Urban sociologists, in our view, can benefit



from a reconsideration of the extent to which local community networks are founded on kinship ties, even today.

There are likely other functions served by nonfamily neighbors that we did not study. Some of these—surveillance of the neighborhood, identifying intruders or responding to accidents, working together on local school or other public issues affecting the neighborhood—may normally exist only as potentials, available but not called upon. Reliance on neighbors for such functions would not be inconsistent with modest levels of routine personal interaction or low levels of other help reported here.

With respect to the competing Chicago school views of neighboring, we have found evidence for both the “residual” and the “systemic” theories. Neighboring is lower in urban than in rural areas, but it is also strongly related to length of residence. Both of these relationships are largely through indirect paths: longer-term and rural residents know more neighbors and have a greater probability of having parents or adult children in their neighborhoods. It seems likely that if continued urbanization also promotes residential mobility, the combination of these two factors will undermine the local community. But in those situations where people develop roots in a given place, particularly common in midlife and beyond, the neighborhood has a more important social role.

Few other variables have direct effects on neighborhood interaction, despite their importance in other studies. We have shown that the effects of several key variables, such as length of residence and rural location, are mostly indirect. This finding calls for a reconsideration of their theoretical meaning. We have shown that the main reason that higher-income people neighbor less is because they are less likely to live near parents and children. They have wider residential options than other people, and indeed it is possible that their willingness to move enhances their socioeconomic mobility. Higher-income people actually know more of their neighbors but visit with them less often. This combination suggests that there are class differences in neighboring styles: a more middle-class style of casual familiarity with many neighbors and a more working-class style of intense relations with a few. Thinking of neighboring in terms of styles leads to a very different view than the hypothesis that higher-class people tend simply to abandon the neighborhood.

Similarly, we must understand the effects of being nonwhite or being older mostly in terms of their association with presence of family neighbors. Nonwhites, we propose, live closer to their parents and children because their residential mobility is artificially constrained by a discriminatory housing market. Because there is no direct effect of race on neighboring, we conclude that neighboring by minorities is not affected by their (presumed) lesser opportunity to make contacts outside the neighborhood. Their telephone contacts are actually indirectly increased by

their (and their family members') residential immobility. Older people live farther from parents and children because they (or their parents or children) are more likely to move away (or parents to die) as time passes. And it is because they live farther from these relatives that they neighbor less, not because of any direct effect of age.

These reevaluations of the *indirect* effects of income, race, and age echo comments made above with respect to the *direct* effects of gender, disability, homeownership, and marital status. Falling within the context of urban theories about the loss or regeneration of the local community, these variables are usually understood in terms of constraints or investments. We conclude that they should be construed in more concrete terms: gender in terms of gender typing of telephoning (not only with neighbors but also with nonneighbors), physical disability in terms of needs for help (not only from within the neighborhood, but also from beyond it), marital status in terms of availability of an intimate and convenient helper who may affect all manner of other social ties.

These comments are supported by the specific pattern of relationships found in this study, a pattern dominated by the direct effects of the number of family neighbors. For the most part we find that the Chicago school's concern with "the decline of community" is of little help in making sense of the results. Perhaps this is an instance where theory blinds more than it sensitizes; perhaps the study of "neighboring" has been too closely aligned with concerns about urban alienation and too isolated from research on other aspects of people's social networks.

Studying family neighbors requires us to think both about urban processes (like residential mobility) and family processes (like nest leaving and care giving). And the discovery of the centrality of family neighbors in neighboring can encourage us to look for other linkages between different aspects of social networks: to ask, for example, how family neighbors are interlocked with other neighbors or how social interaction within the neighborhood affects extra-local networks. Extending our concern from neighboring to neighborhood mobilization, we may give more prominence to the possible effects of kin-centered local networks on collective action (a topic already broached by Granovetter's [1973] discussion of "strong" vs. "weak" local ties). Our focus here on family neighbors may be opportune precisely because it combines the specifically "urban" category of neighbors (i.e., people one may know only because they live nearby) with the specifically "family" category of parents and children (i.e., people one is tied to through kinship). Surely people's social lives are not simply an accumulation of component parts, of different kinds of ties, each with its own logic. The challenge is to see how various threads of the social fabric are knitted together.

## REFERENCES

- Blum, Terry, and Paul W. Kingston. 1984. "Homeownership and Social Attachment." *Sociological Perspectives* 27:159-80.
- Campbell, Karen, and Barrett Lee. 1990. "Gender Differences in Urban Neighboring." *Sociological Quarterly* 31:495-512.
- . 1992. "Sources of Personal Neighbor Networks: Social Integration, Need, or Time?" *Social Forces* 70:1077-1100.
- Cantor, Marjorie. 1979. "Neighbors and Friends: An Overlooked Resource in the Informal Support System." *Research on Aging* 1:434-63.
- Carp, Francis. 1976. "Housing and Living Environments of Older People." Pp. 244-71 in *Handbook of Aging and the Social Sciences*, edited by R. H. Binstock and Ethel Shanas. New York: Van Nostrand Reinhold.
- Crimmins, Eileen, and Dominique Ingegneri. 1990. "Interaction and Living Arrangements of Older Parents and Their Children." *Research on Aging* 12:3-35.
- Dewit, David, Andrew Wister, and Thomas Burch. 1988. "Physical Distance and Social Contact between Elders and Their Adult Children." *Research on Aging* 10:56-80.
- Fischer, Claude. 1982. *To Dwell among Friends*. Berkeley and Los Angeles: University of California Press.
- Forrest, Ray, and Murie Alan. 1991. "Transformation through Tenure? The Early Purchasers of Council Houses, 1968-1973." *Journal of Social Policy* 20:1-25.
- Granovetter, Mark. 1973. "The Strength of Weak Ties." *American Journal of Sociology* 78:1360-80.
- Hurlbert, Jeanne, and Alan Acock. 1990. "The Effects of Marital Status on the Form and Composition of Social Networks." *Social Science Quarterly* 71:163-74.
- Kasarda, John, and Morris Janowitz. 1974. "Community Attachment in Mass Society." *American Journal of Sociology* 39:328-39.
- Lawton, Leora, and Merrill Silverstein. 1992. "The Effect of Divorce on the Geographic Distance between Parents and Adult Children." Annual meeting of the Gerontological Society of America, San Francisco.
- Lawton, M. P., and B. Simon. 1968. "The Ecology of Social Relationships in Housing for the Elderly." *Gerontologist* 8:108-15.
- Litwak, Eugene. 1960. "Geographic Mobility and Extended Family Cohesion." *American Sociological Review* 25:385-94.
- Litwak, Eugene, and Charles F. Longino, Jr. 1987. "Migration Patterns among the Elderly: A Developmental Perspective." *Gerontologist* 27:266-72.
- Logan, John R., and Harvey Molotch. 1987. *Urban Fortunes: The Political Economy of Place*. Berkeley and Los Angeles: University of California Press.
- Moss, Miriam, Sidney Moss, and Elizabeth Moles. 1985. "The Quality of Relationships between Elderly Parents and Their Out-of-Town Children." *Gerontologist* 25:134-40.
- Pratt, Geraldine. 1986. "Housing Tenure and Social Cleavages in Urban Canada." *Annals of the Association of American Geographers* 76:366-80.
- Rossi, Alice S., and Peter H. Rossi. 1990. *Of Human Bonding: Parent-Child Relations across the Life Course*. New York: Aldine de Gruyter.
- Rowles, G. 1978. *Prisoners of Space? Exploring the Geographical Experience of Older People*. Boulder, Colo.: Westview Press.
- Sampson, Robert. 1991. "Linking the Micro- and Macrolevel Dimensions of Community Social Organization." *Social Forces* 70:43-64.
- Shanas, Ethel. 1979. "Social Myth as Hypothesis: The Case of the Family Relations of Old People." *Gerontologist* 19:3-9.
- Speare, Alden, Jr., Roger Avery, and Leora Lawton. 1991. "Disability, Residential

- Mobility, and Changes in Living Arrangements." *Journal of Gerontology, Social Sciences* 46:S133-S142.
- Ward, Russell, John R. Logan, and Glenna Spitze. 1992. "The Influence of Parent and Child Needs on Coresidence in Middle and Later Life." *Journal of Marriage and the Family* 54:209-21.
- Wellman, Barry. 1979. "The Community Question: The Intimate Networks of East Yorkers." *American Journal of Sociology* 84:1201-31.
- . 1990. "The Place of Kinfolk in Personal Community Networks." *Marriage and Family Review* 15:195-228.
- Willmott, Peter, and Michael Young. 1960. *Family and Class in a London Suburb*. Routledge & Kegan Paul.
- Wirth, Louis. 1938. "Urbanism as a Way of Life." *American Journal of Sociology* 44:3-24.
- Wolf, Jacquelyn, Naomi Breslau, Amasa Ford, Henry Ziegler, and Anna Ward. 1983. "Distance and Contacts: Interactions of Black Urban Elderly Adults with Family and Friends." *Journal of Gerontology* 38:465-71.
- Young, Michael, and Peter Willmott. 1957. *Family and Kinship in East London*. Glencoe, Ill.: Free Press.

# Systematic Biases in Social Perception<sup>1</sup>

Ece Kumbasar, A. Kimball Romney, and William H. Batchelder  
*University of California, Irvine*

Members of a professional group reported on friendship ties among all members, including themselves. Multiple methods of analysis reveal several systematic biases. In spatial representations individuals' self-perceived positions are closer to the centroid than their group-perceived positions. Graph-theoretic centrality measures show that group members tend to have highest centrality in their own digraphs, and they tend to report more ties, more reciprocated ties, and more transitive triples among those they report, as opposed to those they do not report, as friends. Despite these individual biases, correspondence analysis provides a valid group-level representation of the friendship network.

## INTRODUCTION

Network representations of a group's social structure are often derived from information provided by each of the members of the group. In this approach, each member reports on one or more relational ties within the group, and these individual reports are aggregated to construct a network representation of the group's social structure. The aggregation process may be deceptive, because it must take into account systematic individual biases in how members view their own position in the structure as well as individual differences in knowledge of various parts of the structure. In this paper, we document and analyze several sources of bias and knowledge differences in the context of reports about friendship ties in a stable professional group of computer hardware engineers. Uncovering these biases depends, to a great extent on the method used in data collection, which we describe next.

Techniques for collecting and analyzing appropriate social network data have only recently become available. In the 1930s Moreno ([1934]

<sup>1</sup> This research was supported by National Science Foundation Grant no. SES-9210009 made to A. K. Romney and W. H. Batchelder. We thank Tom Snijders for his program, ZO, referred to in the text. Please address all correspondence to Ece Kumbasar, School of Social Sciences, University of California, Irvine, California 92717.

1953) developed and encouraged the idea of collecting "sociometric" data in a wide variety of groups. In Moreno's method, typically the members of a social group were asked to name their three best friends and the resulting structure of friendship was represented as a "sociogram." Since the work of Moreno, it has become a standard methodology to attempt to construct network representations from sociometric self-reports where members report on their own ties to others in the network (e.g., Burt 1982; Freeman, White, and Romney 1989; Wasserman and Faust 1995).

The collection of friendship data where members report both on ties involving themselves and ties among others was introduced over 30 years ago in Newcomb's (1961) classic study of friendship patterns among fraternity members. In the first year of the study, which lasted 16 weeks, he obtained not only each member's report of liking for every other member but each member's estimate of how much he liked every other member (including himself). "Our initial intention had been to obtain estimates . . . from each S of every other S's degree of attraction toward the remaining 16 S's—a total of 256 estimates—at frequent intervals" (Newcomb 1961, p. 41). In fact he actually obtained complete estimated rankings only in week 5 of the first year. For other weeks, he obtained partial information on the ranks, and in week 14 he collected a complete set of 256 estimates in terms of three categories: favorable, neutral, and unfavorable. Newcomb did not make great use of these data, nor did he publish the raw data. However, as we will show, these types of data lend themselves to detailed analysis concerning each individual's perception of the social structure. For example, the data set from week 14 would have been well suited for analyzing various perceived network characteristics within a given actor's data, such as reciprocity or transitivity of favorable ratings. However, to our knowledge, Newcomb's idea of augmenting self-reported ties to include reports on ties among all others was not seriously developed until Krackhardt (1987) formalized and used the method.

Newcomb's total report method has the advantage, over the self-report method, that every member provides his or her own view of the entire social structure. However, the method raises interesting problems about how to combine these individual, ego-centered views into a more representative, less personal view at the group level. In fact, one can expect individual differences in ego-centered views to be due not only to chance but also to systematic differences in knowledge and systematic biases, such as inflating one's own role in the social structure.

Interest in whether respondents are less accurate in self-reports than reports about others has a long history. For example, over 75 years ago Cogan, Conklin, and Hollingworth (1915) compared self-estimates of 50

students with the judgments passed on them by their acquaintances for various traits such as intelligence, neatness, and sociability. They found that "the individual does not judge herself as accurately as she is judged by her friends" (p. 173). They also found systematic bias in two directions: "In the case of 'undesirable' traits (conceit, vulgarity and snobishness) this constant error is toward underestimation. . . . In the case of the remaining traits, the 'desirable' ones, the general tendency is toward overestimation" (p. 174).

Warner, Meeker, and Eells (1960, pp. 47–67), in their book on problems of social stratification, report interviews done for a study of a small town and its social system. The informants were asked to identify the social classes in their town and to assign the families that they knew, including their own, to their appropriate classes. Most of the informants consistently assigned themselves to a higher class than they were assigned by others and by the researchers. Another interesting finding was that people had a tendency to make subtle distinctions between the levels of their own class and to lump together different levels of other classes. For example, an informant whom the researchers identified as being from the upper class reported that there were four levels within the upper class, two levels within the upper middle class, and the rest of the townspeople belonged either to the working class or the lower class.

More recently, Tversky and Kahneman (1974) and Kahneman and Tversky (1972, 1973) have discussed a number of cognitive biases in decision and estimation tasks. One relevant example is that when both members of a dyad estimate their percentage contribution to a work project, the sum significantly exceeds 100% (Ross and Sicoly 1979). Also, several studies (e.g., Walmsley 1988) report that when individuals were asked to draw maps of a region, they provided more, as well as more accurate, details about the region near their own living area.

Another line of work relevant to biases and social perception is the work of Linton Freeman and his coworkers (Freeman, Romney, and Freeman 1987; Freeman 1992). For example, in Freeman et al. (1987), the role of differential knowledge in people's recall of attendees at a target session of a colloquia series was investigated. They conclude that their "informants' incorrect answers were strongly biased in the direction of the long-term patterns of attendance at social events" (p. 321). Freeman (1992) compared patterning of social affiliation in aggregated group-level cognitive reports and in observation data. He argued that even though the observed interaction was not categorical, people categorized one another into groups by cognitively simplifying their observations of social affiliation, forcing the patterns "into categorical form" (p. 122).

Newcomb (1961) himself was aware of the possibility of cognitive biases in his total report procedure. In fact, he tested two hypotheses rele-

vant to systematic bias. The first hypothesis is that "the higher A's attraction to B the greater the likelihood that A will attribute to B agreement with himself in attraction toward the remaining House members" (p. 56). His table 4.3 (p. 57) presents data that strongly support this hypothesis. The second hypothesis is that "if A's attraction toward B and toward C is high, then he should perceive B's and C's attraction toward himself (A) and toward each other, as being high. Such a set of orientations we shall refer to as a perceived perfect triad" (p. 61). The analyses in his tables 4.6 and 4.7 (pp. 61, 63) support these hypotheses. Even though Newcomb had data to directly study systematic bias in reports of friendship, he did not inquire directly about such questions. In fact, adequate methods of analysis were yet to be developed even if he had posed such questions.

In this article we analyze the cognitive reports of the friendship ties among 25 people who have worked together for an extended period in the same circuit design department of a large computer company. These people reported their perceptions of the friendship ties among all the others, including themselves, in the network. We present a method that makes it possible to represent the reports of each actor concerning every other actor in a common space that includes an aggregate global summary. This overall representation allows, first, a detailed examination of each actor's perception of the social structure as well as the global perception of that structure (i.e., a cognitive mapping that reflects an aggregate view of all those embedded in the network) and, second, different types of comparisons regarding the individual representations and the global representation. It is possible, for example, to answer questions like: How does each actor's perception of the friendship structure compare with the globally perceived structure? How does the actor's self-perceived position in the social space compare to all the others' perceptions of that same actor's position? These and other comparisons, along with supporting analyses that do not depend on the spatial representation of the data, are presented. In the remainder of the article we describe the details of the data collection, methods of analyses, and results of the study, and we discuss its theoretical implications.

## DATA

As noted earlier, the data collection design was introduced by Newcomb (1961) and developed further by Krackhardt (1987). In this paradigm, each respondent is asked to report, for a given type of relation, not only his or her own ties to others, but also the perceived ties between every ordered pair of members of the group. Given a network with  $N$  actors, a complete data set can be represented by  $N$  digraph incidence matrices



(each of size  $N \times N$ ), in other words,  $N$  individual representations (di-graphs) of the network, one given by each actor.

If we let  $A$  be the set of actors in the network, then, for all  $i, j, k \in A$ , we can define a three-mode data structure given by the terms

$$x_{i,jk} = \begin{cases} 1 & \text{if } i \text{ reports } k \text{ as a friend of } j, \\ 0 & \text{otherwise,} \end{cases} \quad (1)$$

for  $1 \leq i, j, k \leq N, j \neq k$ . Further, let  $\mathbf{X}_i = (x_{i,jk})_{N \times N}$  be a two-mode data matrix, or a "slice" of the overall data structure, that contains actor  $i$ 's description of the entire network in terms of perceived and reported ties.<sup>2</sup>

We collected data at a large computer company from a group of people who worked in the same department and designed integrated circuits for the company's mainframe computers. The department consisted of four sections, each headed by a section manager. There were a total of 27 people in the group: 20 male and 2 female engineers, 2 male and 2 female technicians, and a female department secretary, all reporting to the department manager, who was one of the male engineers. On each project, the group worked from conception, through several stages of implementation, to the final product, and this process sometimes lasted up to three years. The department had a very low turnover rate. At the time of the study, average seniority (in terms of group membership) was around seven years. The newest member had been with the group for three years. They worked in close physical proximity to each other; most had cubicles, but some of the managerial staff had their own private offices. There was also a laboratory room located next to the offices. The lab was a high-traffic area and functioned as a focal point for people to interact with each other and to observe interactions around them.

Due to the nature of the job, the organizational structure imposed few restrictions on people's interactions. The sections had a fluid structure, making it possible for people to shift positions horizontally within the department on a temporary basis and report to different section managers, depending on the demands of the job at hand. This fluidity made it possible for members of the group to get to know each other and each other's friends.

At the time of data collection, 25 of the 27 members in the group agreed to participate in the study. All results are based on these 25 individuals. We shall refer to them as group "members" or "actors." Each participant was given a 27-page questionnaire. Each page contained a

<sup>2</sup> Our notation differs slightly from Krackhardt's (1987), where the "perceiver" or "ego" is denoted by  $k$  instead of  $i$ .

short instruction followed by a randomized list of the names of all the people in the department. The instructions on each page gave the name of one group member (the order of appearance of the names in the instruction part was also randomized), and the respondent was instructed to place a check mark next to the names of those who were that group member's friends. Thus, each respondent considered one member of the group per page, including one page for self, and reported on that member's friends. They were instructed to work on one page at a time and were not allowed to look ahead or skip back to previously completed pages. We omitted the friendship ties involving the two who did not participate from the analyses to follow.<sup>3</sup>

## ANALYSES

To examine the relationship between self-reports and reports about others, we seek a way of representing each member's report on all members of the group in the same space. This representation requires some sort of simultaneous scaling of the 25 data matrices or slices, the  $\mathbf{X}_i$  described earlier. One appropriate method is correspondence analysis used as a descriptive multidimensional scaling technique. This method traces back to early work by Guttman (1941, 1950) and Fisher (1940). Many useful books have recently appeared that give full accounts of the method (e.g., Gifi 1990; Greenacre 1984; Nishisato 1980; Weller and Romney 1990), which has already had significant applications to sociological topics (e.g., Goodman 1987; Wasserman, Faust, and Galaskiewicz 1989). Our descriptive use of the method follows Gifi (1990) and Weller and Romney (1990). An important function of correspondence analysis is to provide a spatial representation of the relations among the various categories of the row and column variables simultaneously in the same space. We used the software program SPSS ANACOR (SPSS 1990, pp. B30–B47) to carry out the analysis.

To achieve the simultaneous scaling of the 25 matrices (the  $\mathbf{X}_i$ ), we first transform our three-mode data structure given in equation (1) to a two-mode data structure by stacking the 25 matrices (or slices) vertically to obtain a  $625 \times 25$  rectangular data matrix, where rows 1–25 correspond to the data from actor A ( $\mathbf{X}_1$ ), rows 26–50 to actor B ( $\mathbf{X}_2$ ), and

<sup>3</sup> Based on the reports of all the others in the group (as well as informal interviews with some of the group members) we learned that the two who did not participate in the study were regarded as "isolates." One of them had a staff position (mostly advisory) in the department and worked alone. He left the department shortly after the study was conducted. The other nonparticipant was described by the participants as a "difficult person to get along with" and did not seem to have any friends within the department.

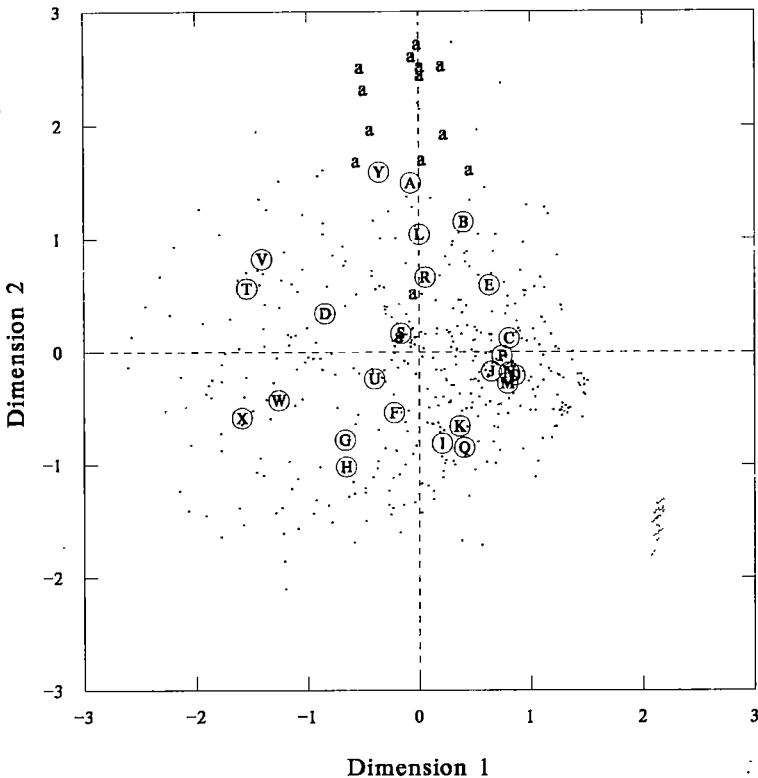


FIG. 1.—Correspondence analysis solution of 25 stacked matrices. Letter “a” indicates row scores for actor A’s perceived position by all others, including actor A; column scores are represented by capital letters and are circled.

so forth.<sup>4</sup> Next, we submit these stacked matrices to correspondence analysis, which gives a representation of the data in a multidimensional Euclidean space, where proximity in the space reflects similarity of friendship ties. Some of the technical details of how the data were analyzed via correspondence analysis are discussed in the appendix.

Figure 1 shows the first two nontrivial dimensions of the joint six-dimensional solution for all 25 actors in the network. All figures in the paper were produced using SYGRAPH (Wilkinson 1990). Figure 1 is the source for several specific analyses to follow. It contains 25 distinct mappings, corresponding to the data provided by each actor embedded in the network, for a total of 625 row-score positions (represented by dots

<sup>4</sup> The diagonal values of each  $X_i$  matrix were set to “1” prior to the correspondence analysis (see Weller and Romney 1990, p. 71).

and, in the case of the first actor, by the letter "a"). In addition, it contains 25 column-score positions, denoted by circled capital letters, that represent an aggregate judgment of the location of each actor within the social space. Thus, there are a total of 650 points (i.e., social locations).

Each actor contributes 25 row scores to figure 1, and each score corresponds to their judgments of a particular actor. To illustrate the point, we have indicated by the letter "a" the 25 row scores (locations) of actor A, based on the reports of all others, including actor A. In addition, the aggregate column score for actor A is denoted by the letter "A." As can be seen, these 25 row scores and the corresponding column score tend to be bunched in the top center of figure 1.

Figure 1 includes X and Y axes that intersect at (0,0), the center of the plot. In a correspondence analysis plot, the center is uniquely defined as the centroid, or arithmetic mean, of all the row scores or, equivalently, the mean of all the column scores. The mean is the point that minimizes the sum of the squared distances to all points, so row and column scores near the center correspond to actors that are more "central" in the group structure as revealed by the actors' reports.

Various detailed pictures can be obtained by examining selected subsets of points from figure 1. In effect, we can separate various aspects of the picture to obtain a "magnification" of them. The first comparison of interest is the comparison of the information in the row scores and the column scores.

Figure 2 represents jointly the 25 row scores (based on everyone's reports, including self) for each actor in terms of the arithmetic mean (in the first two dimensions) and the column score for that actor. The ends of the lines denoted by triangles refer to the column score positions, and the labeled ends refer to the means of the 25 row scores.

Note that in most cases, the column score for an actor falls quite near the mean of the row scores for that actor. This relationship between row and column scores is in no way forced by correspondence analysis, and it can be interpreted as indicating that the group aggregate location for a given actor, as represented by a column score, corresponds closely to the simple mean of the 25 individual representations of that actor, as measured by the 25 row scores. This result is important, because the data-gathering procedure does not constrain the group members to report only reciprocated ties. In fact, most actors reported numerous nonreciprocated ties. As we will see later, these asymmetries tended to be systematic within each actor's slice; however, they did not appear to be systematic across respondents. It is important that asymmetries were not systematic across respondents, because a radical departure from symmetry that was systematic across respondents (e.g., most reporting that *j* is a friend of *k*

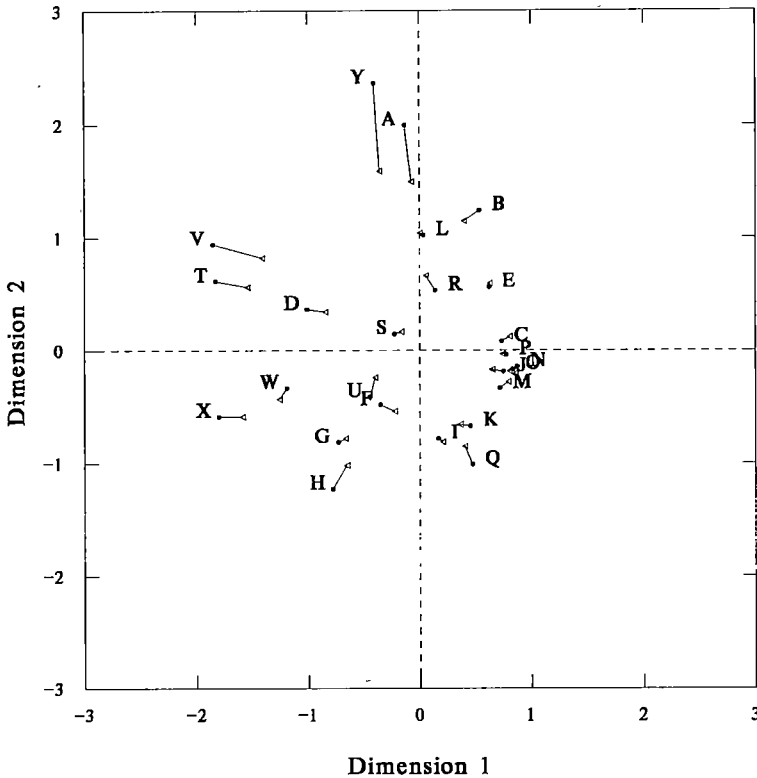


FIG. 2.—Joint plot of mean row scores (labeled points) and the column scores (triangles) for each actor, derived from figure 1.

but not that  $k$  is a friend of  $j$ ) might produce results that are quite different depending upon whether one stacked the data matrices or their transposes.<sup>5</sup>

<sup>5</sup> As an extreme example, we can take a case where all group members report that almost everyone is reported to be a friend of actor  $j$ , but with  $j$  not reciprocating these ties. As a result,  $j$  will have a large indegree and a small outdegree in everyone's matrix  $X_j$ . This is a case where the asymmetry is quite systematic across respondents. When the matrices are stacked and scaled, actor  $j$  will have a central position within the global plot reflecting a mostly agreed upon high popularity. However, when the transposes of the matrices are stacked and scaled, actor  $j$  will have a relatively peripheral position within the global plot due to his low outdegree as reported by everyone. The position of  $j$  differs depending on which stacked matrices are scaled, due to systematic asymmetry across respondents. If the asymmetry is nonsystematic across respondents and yet systematic within respondents, as is the case with the current data set, then the positions of the actors within the global plot are likely to be quite close whether the matrices or their transposes are stacked and scaled with correspondence analysis.

In any application of correspondence analysis to three-mode data, it is important to analyze separately both the stacked matrices and the stacked transposes. In the social networks area, the distinction refers to "given" and "received" ties, and it is quite possible for interesting and substantively interpretable differences to emerge from these two analyses. In the present case, we repeated every analysis reported here for the stacked transposes,  $\mathbf{X}_i^T$ . In our case, all of the substantive conclusions based on both analyses were the same, so we report only on the analysis of the stacked matrices here.

Next, we want to compare the social position of each group member as perceived by each actor within the group, including that member's self-placement. To do this, we could examine the 25 row-score placements of each group member as displayed in figure 1. Unfortunately, different actors exhibit quite different tie densities in their individual slices, and these differences make each actor's representation of the social structure derived from figure 1 a different size (scale). For example, the row scores for an actor who has a high tie density will tend to cluster nearer the center of figure 1 than will the row scores for an actor with low tie density. This problem can be overcome by bringing each actor's row scores to the same scale by transforming them to mean zero and variance equal to the singular value for each dimension. The appendix provides more details and rationale for this within-actor, row-score transformation.

Figure 3 summarizes the social structure by representing each actor (indicated by capital letters) by a 95% confidence ellipse in the first two dimensions. The center of each actor's ellipse is the mean of the 25 transformed row-score placements of that actor. The ellipse represents a 95% confidence region for the mean, on the assumption that the 25 transformed row scores are a random sample from a bivariate normal. The size of each ellipse gives us an idea of the "resolving power" of the method.

The aggregate friendship structure, which falls at the midpoint of each ellipse in figure 3, corresponds closely to the characteristics of the group as uncovered by ethnographic research. For example, the close-knit cluster of group members C, J, M, N, O, and P are all male engineers in their late twenties and early thirties who work together closely and socialize outside the workplace quite frequently. They play softball and basketball on a regular basis. The frequency of interaction among these people is perceived by everyone in the group, because this same cluster appears in every group member's perceived social space. Group members E and X are the two women engineers, who have quite different roles within the group. Member E works closely with the subgroup described above, but she is not really considered to be "one of them," because she does

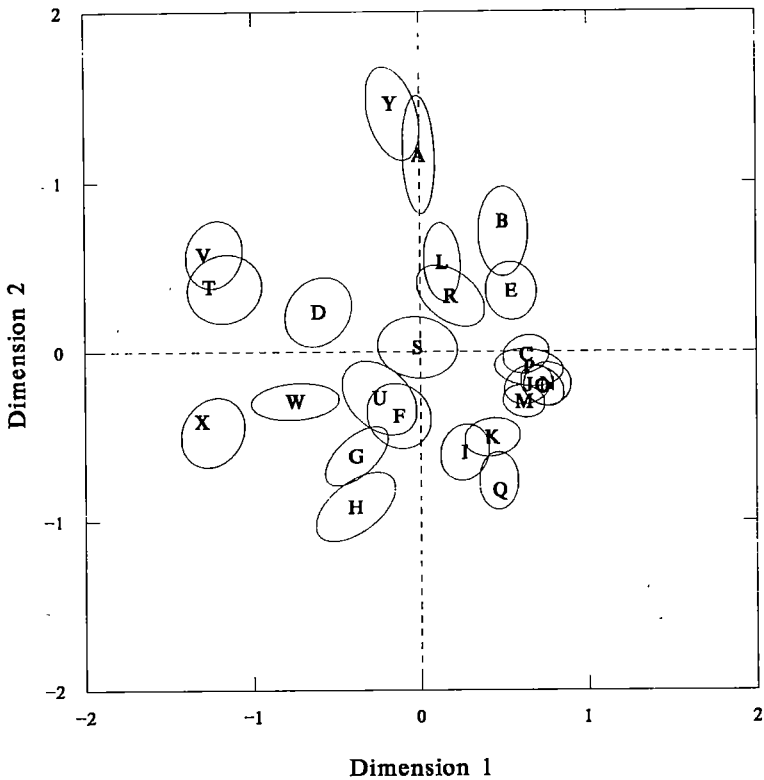


FIG. 3.—Ellipses defining 95% confidence regions of the mean of each actor's transformed row-score positions.

not interact with them outside the workplace. She is most friendly with C and B, and this is reflected by their proximity in the plot. The three of them, E, C, and B, are all in the same section within the departmental organization. Even though X is also an engineer, she functions more like a technician. She is regarded as more friendly with the other technicians (W, G, and H) than with anyone else. Members G and H are both women technicians and share the same ethnicity as W. They, along with F and U spend most of their time working together in the lab. Members L, B, and A are managers who have known each other for nearly 10 years and have worked as members of this group for more than five years. Another close subgroup is made up of I, K, and Q. These three also participate in outside activities (sports, concerts, etc.) with C, J, M, N, O, and P.

Members T and V, the relative isolates in figure 3, share the same ethnic background and also socialize with each other (such as eating

lunch together) more than with others. Others in the group (like S and D), even though they work with different members at different times (depending on the specific demands of any given project), are perceived as not having particularly strong friendship ties with any specific person or persons. The fact that ethnographic evidence is strongly reflected in the pattern of proximities in the aggregate representation of the correspondence analysis solution provides strong validation for the method.

#### THE INDIVIDUAL VIEW VERSUS THE GLOBAL VIEW

We are now in a position to examine how closely each individual's view of the network corresponds to the globally shared view represented by the mean of the transformed row scores (midpoints of the ellipses in fig. 3). We give four examples, comparing four individual cognitive representations with the global mean, in figure 4. Actors D (upper left), L (upper right), and R (lower left) were selected as good to average examples, while actor Y (lower right) was selected as a poor example. In all the plots, the labeled end of each line refers to the mean of the transformed row scores of a particular actor based on everyone's reports, and the unmarked end refers to the transformed row-score placement of that particular actor based on the actor's own report. Thus, the longer the line for any given actor, the larger the discrepancy between the representation of the actor's view and the global view of that actor's position within the network structure. The actor's globally perceived position is indicated by a large filled circle.

Notice that there is a fairly close correspondence between the individual representations and the global mean representation, especially for group members D and R, although there can be fairly large discrepancies, as illustrated in member Y. A close examination of all 25 members' representations reveals that, in a broad sense, each individual is a fairly reliable judge of the pattern of friendship ties as reflected by the globally shared view. For example, the individual representations about the outliers, as well as the more tightly knit subgroups tend to follow the globally perceived patterns as given in figure 3. However, individual perceptions do display some systematic deviations from the group's view.

The most striking difference between the two representations in figure 4, is the actors' tendency to perceive their own position closer to the center of their representation of the group than the mean of where all the others perceive them within their representations. Consequently, we formulated the research hypothesis that actors would tend to perceive themselves as more central in the group than they are perceived by others. One way to operationalize this hypothesis is to compare the transformed row scores for each actor's self-report with the row scores for



that actor based on the reports of all others. Our hypothesis would be confirmed if an actor's own transformed row score was nearer to the centroid than the mean of others' transformed row scores for that actor.

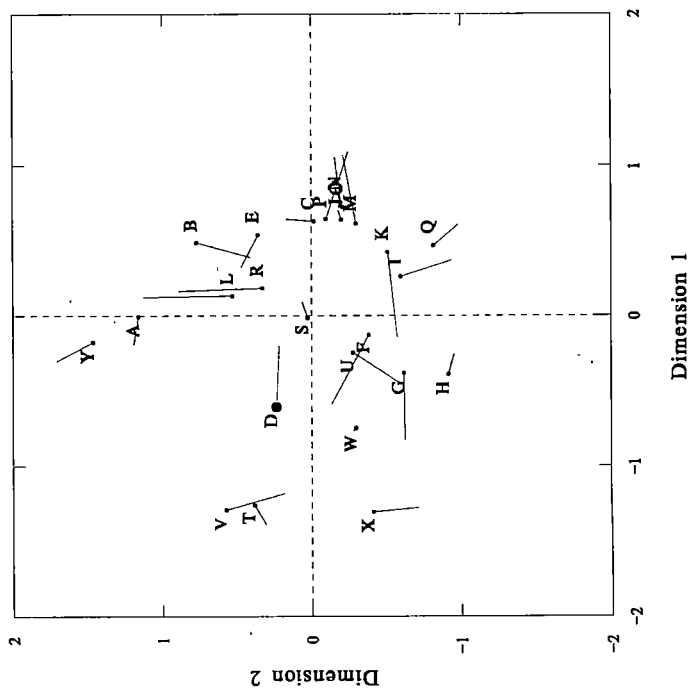
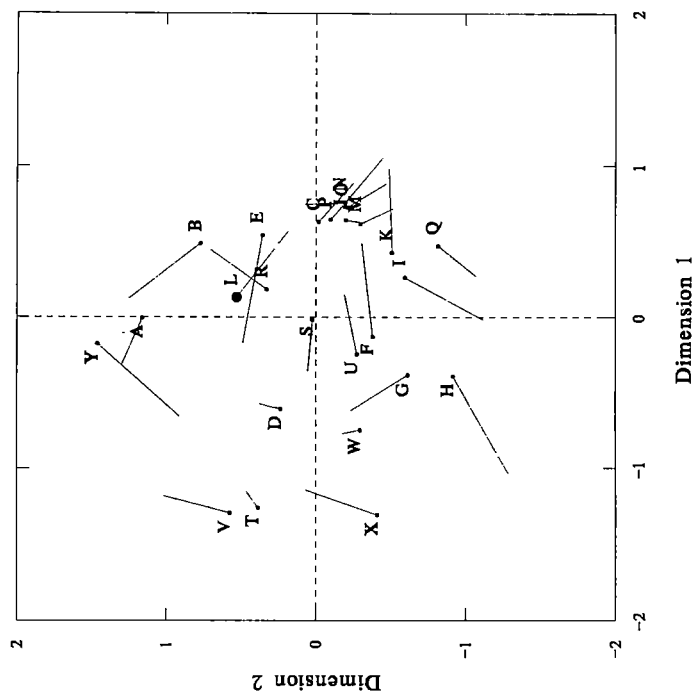
To test our hypothesis, we calculated the distance of every transformed row score from the origin (centroid) both within each individual's representation and within the global representation, utilizing the first six dimensions of the correspondence analysis solution. We ranked these distances within each individual's space and determined the individual's rank. We performed the same task for the global representation of group members. The results of the rankings, reflecting individuals' self-perceived positions within the structure compared to the group's mean perception of each individual's position, are given in table 1.

The result clearly shows a highly significant tendency for actors' self-representations to be closer to the group centroid than expected by chance. The null hypothesis of random positioning from the origin assumes each of the 25 rank positions is equally likely, and it was rejected ( $P < .0001$ ) by a binomial test.<sup>6</sup> This tendency is displayed in striking form in figure 5, which gives information on the size of the discrepancies. The labeled ends of the lines reflect the global mean placement of each actor's position by everyone in the group, and the unlabeled ends reflect the actor's self-position defined by his or her transformed row scores within his or her own cognitive space. Using all six dimensions of the general solution, with the exception of group members F, J, P, and U, everyone's responses represent their own position as being closer to the centroid than is the global mean placement of their position.

The preceding discovery, that an individual's self-report leads to a more central position for him or her than do the reports of others, was made through the use of correspondence analysis. Next we provide a second line of converging evidence for this phenomenon by analyzing the data more directly.

We can demonstrate a high degree of centrality for an individual in his or her perceived network (given by the  $\mathbf{X}_i$ ) by computing several traditional graph-theoretic centrality measures defined by Freeman (1979). The centrality of each actor within each actor's perception of the network (given by the actor's incidence matrix) was calculated using indegree, outdegree, betweenness, and closeness centrality measures defined by Freeman (1979). Centrality calculations were made with UCINET IV (Borgatti, Everett, and Freeman 1990). We rank ordered these

<sup>6</sup> We wanted to check whether our row-score transformations (to bring each actor's picture to scale) may have caused this phenomenon. Consequently, we performed the same calculations on the untransformed row scores in figure 1. As expected, the phenomenon reported was even more significant for the untransformed row scores.



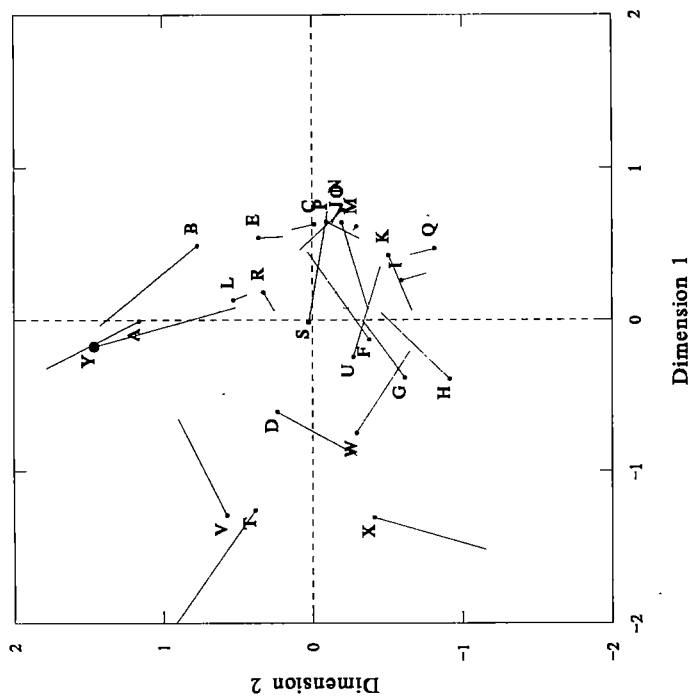
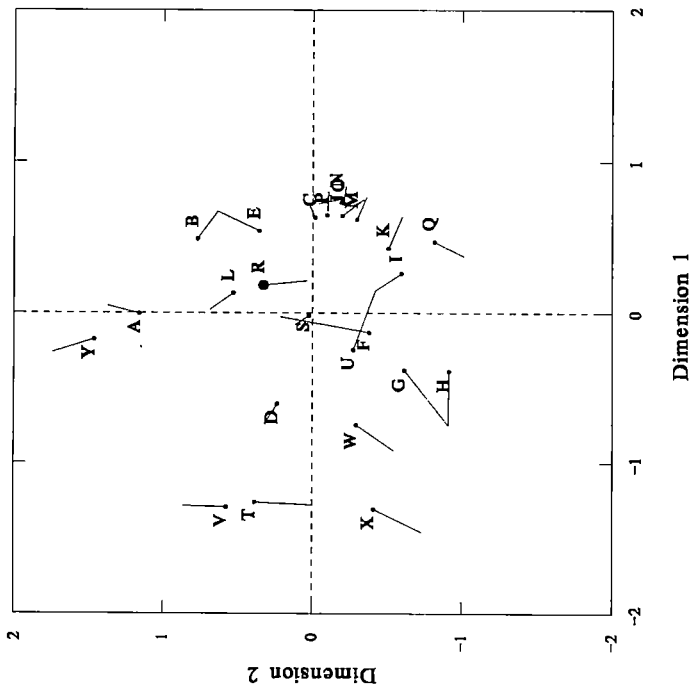


FIG. 4.—Comparison of the global mean representations (labeled ends of the lines) with the individual transformed row-score representations (pointed ends) for actors D (upper left), L (upper right), R (lower right), and Y (lower left). The filled circle is the actor's global mean position.

TABLE 1  
RANKED DISTANCES FROM THE ORIGIN

	ACTOR																								
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
Self-rank .....	8	1	2	4	8	1	1	10	9	8	1	1	1	3	3	7	1	10	1	9	21	17	2	21	10
Global rank .....	20	16	4	17	14	1	10	19	13	7	6	11	3	9	8	2	18	15	5	24	21	23	12	22	25

centrality values within each actor's perceived network and recorded self's position in the ranking. The results are summarized in table 2. The table shows, in striking form, the tendency to perceive one's position to be highly central within the network. For example, when we use closeness to measure centrality within each actor's perceived network, the actor himself or herself has the highest centrality value in 52% of the

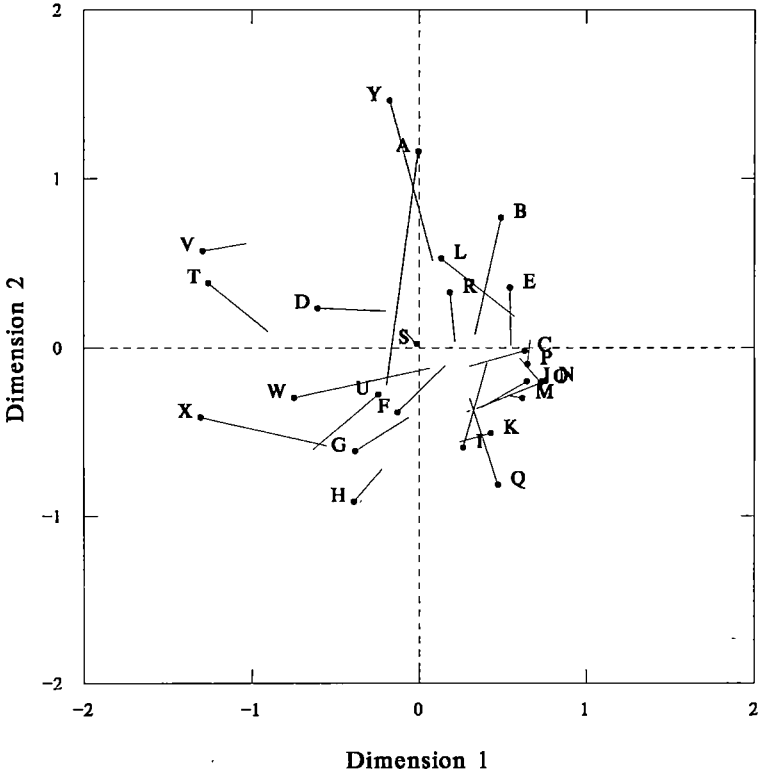


FIG. 5.—Comparison of the global mean representation (labeled ends of the lines) and each actor's transformed row-score representation of self (pointed ends).

TABLE 2  
CENTRALITY RANK FOR SELF WITHIN PERCEIVED NETWORK

SELF-RANK	% OF ACTORS WITH THAT RANK			
	Indegree	Outdegree	Betweenness	Closeness
1 .....	40	44	36	52
2 .....	20	20	8	8
3 .....	16	12	4	4
4 .....	8	4	8	0
5 .....	0	12	0	8
6 .....	8	0	12	16
7 .....	4	4	0	0
8 .....	4	0	8	4
9 .....	0	4	8	0
10 .....	0	0	0	4
11 .....	0	0	0	4
12 .....	0	0	4	0
14 .....	0	0	4	0
18 .....	0	0	8	0
Total .....	100	100	100	100

NOTE.—For each centrality measure, the table reports the percentage of the actors whose own centrality is the highest, the second highest, etc. (given by ranks) within their own digraphs ( $\bar{X}_i$ ).

cases. The actor has the highest or second highest centrality value in his or her own view of the network in at least 60% of the cases when we use degree or closeness centrality measures and in 44% of the cases when we use betweenness.

The same phenomenon occurs when we examine an actor's indegree and outdegree within the context of all perceived ties for that actor. In particular, for each actor  $i$ , we can compare the number of self-reported friends,

$$\sum_{k \neq i} x_{i, ik},$$

with those reported for that actor by others,

$$\sum_{k \neq i} x_{j, ik},$$

for each  $j \neq i$ . There is a highly significant tendency on the part of each actor to report his or her ties to other actors as greater than those that others report for that actor ( $t = 5.293$ ;  $df = 24$ ;  $P < .0001$ ). It can be argued that these differences are the result of lack of knowledge on the part of others about an individual's friendship ties, instead of each indi-

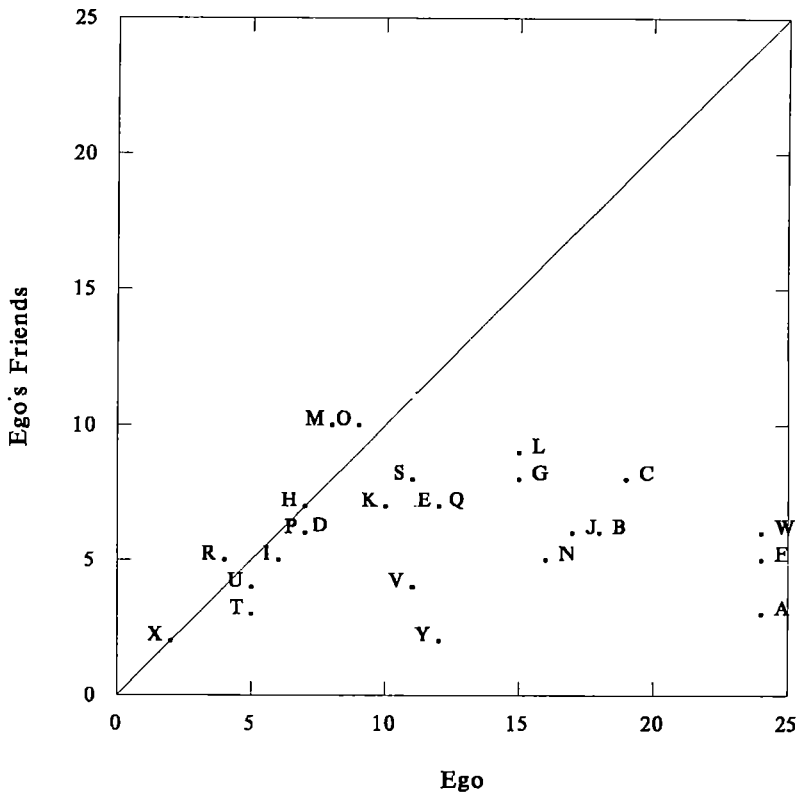


FIG. 6.—Scatterplot of total number of ties reported by actor (ego) for self and median number of ties reported for actor by actor's self-reported friends.

vidual's bias in perceiving and reporting his or her ties. An individual and those who are close to that individual (i.e., his or her friends) are expected to know more about that person's friends than those who are more distant. To investigate this hypothesis, we next compare each actor's outdegree only to the outdegree reported for that actor by those whom the actor identifies as his or her friends. In this analysis, the actor's self-report is still significantly higher ( $t = 4.535$ ;  $df = 24$ ;  $P < .0001$ ). Figure 6 illustrates this result, plotting the median number of ties reported for a particular actor by those whom that actor named as his or her friends, against the number of ties that actor reported for self.

It can further be argued, however, that even though one actor may consider another actor as a friend, the second actor may not reciprocate this sentiment. Therefore, in the strictest sense, the actor who does not reciprocate another actor's choice of friendship can be argued to be not as close to that actor as those who do reciprocate and may still display

some lack of knowledge about that actor's friends. When we tighten the criterion further and compare an actor's outdegree only to the outdegree reported for that actor by those who reciprocate that actor's choice of friendship, the difference remains highly significant ( $t = 3.41$ ;  $df = 24$ ;  $P < .002$ ).

#### THE INDIVIDUAL VIEW REVISITED

We next turn to the individual's perception of the network and examine all ties an individual reported for everyone, including himself or herself. An examination of each of the 25 individual versions (the  $\mathbf{X}_i$ ) of the network suggests that the distribution of ties within each individual's perceived network contains systematic biases in how the individual cognitively organizes the network. In this section, we compare an actor's self-reported friends with those whom that actor did not report as friends on several network properties (tie density, reciprocity of ties, and transitivity of ties) that reflect these biases.

The report of any given actor leads to a partitioning of the network into two subnets. We call these the actor's "innet" and the actor's "outnet." For each actor, innet actors consist of the self and all those whom the actor named as his or her friends, and the outnet actors consist of all others in the network. Thus, in terms of equation (1), actor  $i$ 's innet nodes consist of actor  $i$  and all  $j$  with  $x_{i,j} = 1$ , and the outnet nodes consist of all  $j$  with  $x_{i,j} = 0$ .

The total ties an actor reported, following the above classification, fall into three mutually exclusive categories: (1) ties reported by an actor among the actor's innet nodes, (2) ties reported by an actor among the actor's outnet nodes, and (3) the crosscutting ties an actor reports between nodes in different subnets. The crosscutting ties, in turn, can be divided into two types: those originating within the innet and directed toward the outnet and those going in the opposite direction, from the outnet to the innet.

We next examine the subnets with respect to the entire network and with respect to each other, on the network properties of tie density, reciprocity, and transitivity. All the subsequent analyses and the results are based on the reports of 20 group members. Data from five participants, three of which reported close to the maximum possible number of ties for the network and two of which had very sparse matrices, are excluded from further analyses. The three with the high-density matrices named all others as their friends and therefore had no outnet actors; the two with low-density matrices had very small innets, which made statistically meaningful comparisons impossible.

As discussed earlier (see fig. 6), actors, in general, reported either the

highest or one of the highest outdegrees for themselves. Now, using a different baseline, we first consider an actor's outdegree for self as a percentage of the total number of ties the actor reported for the entire network, given by

$$P_i = \frac{100 \sum_{k \neq i} x_{i,ik}}{\sum_j \sum_{k \neq j} x_{i,jk}}. \quad (2)$$

The mean of the distribution of the  $P_i$  is 7.4%. This observed mean is significantly higher than the expected mean of 4% under the null hypothesis of a random outdegree distribution ( $t = 6.082$ ;  $df = 19$ ;  $P < .0001$ ). As a consequence of the actor's large proportional outdegree for self, on average, the greatest proportion of total ties reported by the actor occurs within the actor's innet (45.5% of the total), the smallest proportion occurs within the outnet (25.2% of the total), and crosscutting ties, split almost evenly between those going from the innet to the outnet and vice versa, constitute 29.3% of the total. These mean proportions, however, are not very revealing, since they depend on the base rate,  $P_i$ . For example, an actor with a high  $P_i$  necessarily has a large innet and therefore should have a high percentage of total ties occurring in the innet. Another factor contributing to the size of the innet, as we shall demonstrate shortly, is the tendency of actors to perceive innet ties as reciprocated and as transitive.

To control for the base-rate effect, we treat the subnet as the unit of analysis, instead of the total network given by each  $X_i$ . For the next analysis, we exclude the actor's own reported ties from the innet. In this manner, the tie density ( $d$ ) of any innet with  $N$  nodes (i.e., the actor reports  $N$  friends for self), is given by

$$d_{\text{innet}} = \frac{\text{number of ties within the innet}}{N(N-1)}. \quad (3)$$

Density for any outnet is obtained in similar fashion from outnet ties. However, since some actors did not report any given or received ties for some others within the network, these actors with no reported ties were excluded from the actor's outnet for  $d_{\text{outnet}}$  calculations to avoid "artificially" low outnet density.

The amount of reciprocity in any subnet is given by the reciprocity ratio ( $r$ ) of that subnet, defined by

$$r = \frac{\text{number of reciprocated ties in the subnet}}{\text{total number of ties reported for the subnet}}. \quad (4)$$



Finally, the transitivity in any subnet is given by  $t$ , the transitivity ratio, defined by

$$t = \frac{\text{number of transitive triples in the subnet}}{\text{number of transitive triples} + \text{number of intransitive triples}}, \quad (5)$$

where a transitive triple is defined when  $x_{i,jk} = 1$ ,  $x_{i,kl} = 1$ , and  $x_{i,jl} = 1$ , and an intransitive triple is as before with  $x_{i,jl} = 0$ . Thus, for reciprocity, we consider ordered pairs, and for transitivity, ordered triples.

The difference between the innet and the outnet, in terms of density is quite dramatic:  $d_{\text{innet}}$  is much higher than  $d_{\text{outnet}}$ . The mean difference of .234 is highly significant ( $t = 4.964$ ;  $df = 19$ ;  $P < .0001$ ). We can also demonstrate that, along with density,  $r_{\text{innet}}$  and  $t_{\text{innet}}$  are significantly higher than the outnet ratios. However, since both reciprocity and transitivity are, to a degree, dependent on the density levels, the next question is whether the observed levels of reciprocity and transitivity at both subnets deviate from the levels expected under an appropriate null model that attributes the effects purely to base rates.

We tested for the significance of the amount of departure from the expected levels using the enumeration and simulation methods discussed by Snijders (1991). His methods calculate the expected values, assuming random distribution of ties subject to given fixed marginals (i.e., indegrees and outdegrees). Using Snijders's algorithm ZO, the family of all zero-one matrices with given marginals, based on each individual's innet and outnet, were enumerated; for the subnets that were too large for the enumeration program, his simulation algorithm was used.

The results are summarized in tables 3 and 4. All reported simulations are based on 10,000 runs. For a few of the cases, the algorithm indicated that the simulated distribution was not stable enough for testing the hypothesis. The results clearly demonstrate that within the innet the observed number of dyads with reciprocated ties departs from the expected by highly significant margins. The same is also true for the ratio of transitive triples. As for the outnet, even though the observed number of dyads with reciprocated ties is significantly higher than the expected in most of the cases, we also have nonsignificant departures for 6 of the 16 cases. The ratio of transitive triples for the outnet is close to its expected value in 9 of the 14 cases.

All the results presented support the idea that actors cognitively partition the network into innet and outnet and treat these subnets differently. The actor constructs the innet to be much denser than the outnet and is more likely to perceive innet ties as reciprocated and as transitive. The outnet is sparse, with a smaller proportion of ties perceived as reciprocated and transitivity occurring close to chance levels.

TABLE 3  
ENUMERATION AND SIMULATION RESULTS FOR SUBNETS  
ON DYADS WITH RECIPROCATED TIES

ACTOR	INNETH			OUTNET		
	Expected	Observed	P	Expected	Observed	P
C .....	42	58	< .0001	...	2	= .33
D .....	...	...	NA	3	10	< .0001
E .....	27.71	31	< .0006	7.7	10	< .0001
G .....	32.08	42	< .0001	...	...	NA
H .....	...	19	= .32	1.85	2	< .25
I .....	...	10	= .05	4.69	14	< .0001
J .....	105.86	112	< .0001	...	2	= .01
K .....	19.06	26	< .0001	4.71	8	< .002
L .....	39.52	51	< .0001	...	2	= .06
N .....	56.92	62	< .0008	...	5	= .003
O .....	19.97	22	< .0007	1.79	8	< .0001
P .....	...	19	= .01	6.09	11	= .17
Q .....	29.37	32	< .03	...	2	< .05
S .....	12.81	15	< .01	.42	1	< .001
U .....	...	7	= .11	9.4	21	< .0001
V .....	21.98	26	< .001	17.36	20	< .001
Y .....	22.01	31	< .0001	7.62	8	< .40

NOTE.—Based on the simulated distribution of data matrices with fixed marginals given by each actor's incidence matrix, the *P* value is the probability of observing an outcome greater than what is actually observed. Only the observed value is reported for the cases where the entire family of a given matrix was enumerated. Where enumeration was used, the *P* value is the probability of occurrence for the observed value. The *P* values are not available (NA) for cases where the program output was not stable enough for hypothesis testing.

## DISCUSSION

The numerous and consistent findings reported so far reveal that several systematic biases operate in individuals' perception and cognitive organization of their social group. First, in comparing individuals' spatial representations of the network to the global representations, we found that individuals tended to be closer to the center of their own representation than they were in the global mean representation and in the representations of each of the other group members. Second, using various graph-theoretic centrality measures, actors tended to have high centrality relative to others within the network as they perceived it. Third, controlling for each actor's outdegree, the group members tended to report more ties, with larger proportions of reciprocated ties and transitive ties among those they reported as friends than among those they did not report as friends.

TABLE 4  
 ENUMERATION AND SIMULATION RESULTS FOR SUBNETS  
 ON THE RATIO OF TRANSITIVE TRIPLES

ACTOR	INNETH			OUTNET		
	Expected	Observed	P	Expected	Observed	P
C .....	.55	.63	< .0001	...	...	NA
D .....	...	.59	= .01	...	...	NA
E .....	.69	.70	< .2	.38	.48	< .0001
G .....	.58	.64	< .0001	...	...	NA
H .....	...	.81	= .15	.12	.14	< .3
I .....	...	.48	= .58	.17	.5	< .0001
J .....	.85	.86	< .0001	...	0	= .8
K .....	.56	.68	< .0001	.27	.34	< .06
L .....	.58	.63	< .0001	...	0	= .39
N .....	.69	.72	< .0001	...	0	= .08
O .....	.68	.69	< .03	...	...	NA
P .....	...	.84	= .01	.22	.26	< .1
Q .....	.64	.65	< .03	...	.33	= .17
S .....	.40	.45	< .001	.13	.31	< .02
T .....	...	...	NA	.28	.53	< .0001
U .....	...	.59	= .03	.25	.36	< .0001
V .....	.59	.62	< .004	.64	.65	< .07
Y .....	.56	.66	< .0001	.46	.48	< .17

NOTE.—See note for table 3.

These systematic biases suggest an egocentric view of the social structure as perceived from each individual's vantage point. According to this view, each actor within the network perceives himself or herself to be close to the center, surrounded by friends, with a dense net of ties among them, and perceives all others to be positioned further away from the actor, with sparser ties among them.

In effect, individuals organize their social worlds, not surprisingly, from their own perspectives. Within this individualistic perspective, the actor tends to occupy a central position and is enclosed by a circle of his or her friends. This cognitive structuring, with the actor's strong tendency for reciprocity and transitivity within his or her inneth, is quite in line with Newcomb's (1961) findings that were discussed earlier. In particular, the contrast between the cognitive structuring of the inneth and the outnet is directly supportive of Newcomb's hypothesis about "perceived perfect triads." The relative lack of reciprocity and transitivity within the outnet can be attributed in part to the individual's noninvolvement with the actors in question. As Newcomb argued, within an

individual's own circle of friends, we see that the individual tends to perceive ties in a way that suggests agreement among those friends. This is not necessarily the case, however, when the individual reports on the ties among those who are not the individual's friends. According to the individual, those in the outnet do not necessarily pick similar others and each other as friends, leading to larger numbers of unreciprocated ties and intransitive triples.

Actors with inflated centrality may feel that they have a more powerful and controlling position within the network and may count on more others when they need help or support. Their tendency to perceive friendship relations within the innet as mostly balanced (i.e., symmetric, transitive) is consistent with the idea that the individual is attempting to minimize cognitive dissonance (Festinger 1957; Heider 1958). In this view, for an individual to sustain an inflated innet, the individual expects those who are one path-length away from him or her to have friendship ties similar to his or her own. However, there is no reason for the individual to employ such a strategy when organizing ties among those who are more distant from self.

An individual's lack of knowledge about the outnet ties may also lead to a lower density of reported ties, which may in turn contribute to some of the observed differences between the innet and the outnet. In other words, if an individual does not name a particular group member as a friend (thus placing that group member in the individual's outnet), then this may indicate that the individual lacks knowledge about that member's friends, since the individual will likely know more about his or her own friends than about others. Thus, the individual may fail to name many friends for that particular group member. Also, the data gathering requires one to check the friends of each actor one at a time. This procedure places strong memory demands on the respondent. For example, an individual may report an asymmetric tie between a pair of actors if he or she fails to remember whether the relation was reported for the first occurring member of the pair in the questionnaire. This effect of memory loss may well occur more in the outnet, where the individual has less knowledge.

Nevertheless, an individual's lack of knowledge of outnet members cannot completely account for the results reported here for three major reasons. First, the members of the group knew each other well over a long period of time, as discussed earlier. Since the group was relatively small, everyone had considerable opportunity to learn who each other's friends were.

Second, all but five group members overreported their own ties by wide margins compared to those whom they named as friends (fig. 6). Thus, those whom the individual names as friends perceive the individ-

ual's circle of friends to be much smaller than does the individual. This contradicts the assumption that friends would know more about each other's friendship ties and be better at reporting them. Some whom the individual claims as friends do not consider themselves to be so. If not all are really the individual's friends, as the individual claims, then the consistency in terms of high reciprocity and transitivity within the innet must be partly the individual's construction.

Related to the second reason, even when we compare the individual's self-reported ties to the reports of those who reciprocate the individual's friendship, the significant overreporting on the part of the individual suggests bias as an important factor in the individual's cognitive structuring of the network. Since the individual has an overlapping innet with all those who reciprocate his or her friendship choices, those with reciprocated ties all have a path length of one from the individual, and therefore should know almost as much as the individual about that individual's ties. The role of knowledge in accurate reporting is reflected in the decreasing value of the *t*-statistic as we move closer to the individual in comparing reports. However, knowledge differential is still not enough to explain the discrepancy between the individual's self-report and friends' reports about the individual or the regularity with which the individual constructs the innet.

A third reason for doubting that knowledge differential alone explains our results comes from considering the ZO analyses reported in tables 3 and 4. These analyses show that even when tie density is controlled, significantly higher than chance levels of reciprocity and transitivity occur in the innet but, with scattered exceptions, not in the outnet. These observed regularities are probably driven, in part, by the individual's "perceived social reality." Thus, once the individual establishes who his or her friends are, confirmed or not, the individual is strongly driven to construct a cognitively consistent innet.

The ego biases reported here were uncovered by measuring the cognitive structure at the individual level. Because of the size of these biases, it is reasonable to worry that it may not be possible to infer the social reality from the individual reports. However, aggregating individual data for a global measure, as in correspondence analysis, may tend to wash away the biases present in individual data. As shown, each actor gives an accounting of his or her corner of the network, reflecting an egocentric cognitive organization of the social structure. When the data are combined, as in figure 3, the effect of one particular individual's bias toward perceiving an exaggerated personal social circle will tend to be canceled out by the presence of the same bias in most others' perceptions and reports of the group ties.

It is a project for future research to elaborate on the effects of biases,

as well as differential knowledge, in representing social structure. In this work, it will be important to try to reduce the role of memory factors present in the current design. Another variation may be the use of a "pick  $k$ " design to equate the outdegrees to arrive at a cleaner measure of structural biases. The overall goal of the work will be to catalogue the various ego biases and explore their consequences in the formation and maintenance of social groups.

## APPENDIX

### Correspondence Analysis

There are three major steps in correspondence analysis. First, a raw-data matrix,  $\mathbf{X}$ , with cell entries  $x_{ij}$ , is bivariate normalized by dividing each cell entry by the square root of the product of the row and column marginal totals. In algebra this corresponds to computing a new matrix  $\mathbf{H}$ , with the  $ij$ th cell entry given by

$$h_{ij} = \frac{x_{ij}}{\sqrt{x_{i.}x_{.j}}}, \quad (6)$$

where  $x_{ij}$  is the original cell entry,  $x_{i.}$  is the marginal total for row  $i$ , and  $x_{.j}$  is the marginal total count for column  $j$ . In matrix notation this may be written as

$$\mathbf{H} = \mathbf{S}^{-1/2} \mathbf{X} \mathbf{C}^{-1/2}, \quad (7)$$

where  $\mathbf{S}^{-1/2}$  and  $\mathbf{C}^{-1/2}$  are diagonal matrices whose entries consist of the reciprocals of the square roots of the row marginal totals and column marginal totals, respectively.

Second, the normalized matrix  $\mathbf{H}$  is analyzed by singular value decomposition (SVD) into its triple product,  $\mathbf{U} \mathbf{D} \mathbf{V}^T$ , where  $\mathbf{U}$  and  $\mathbf{V}^T$  contain singular vectors for the rows and columns of  $\mathbf{H}$ , respectively, and  $\mathbf{D}$  is a diagonal matrix of singular values.

Third, the singular vectors of the  $\mathbf{U}$  and  $\mathbf{V}$  matrices and the singular values are used to compute the row scores and column scores for the rows and columns of  $\mathbf{X}$ , respectively. The computational formulas for the row and column scores are:

$$\mathbf{R}_i = \mathbf{U}_i^* \sqrt{x_{..}/x_{i.}}, \quad (8)$$

and

$$\mathbf{C}_j = \mathbf{V}_j^* \sqrt{x_{..}/x_{.j}}, \quad (9)$$

where  $\mathbf{U}_i^* = \mathbf{U}_i \mathbf{D}^{1/2}$ , and  $\mathbf{V}_j^* = \mathbf{V}_j \mathbf{D}^{1/2}$ .

It is interesting to note that the row and column scores always can be

calculated in terms of each other (see Gifi 1990). In fact, this is the basis of our presenting the row and column scores in equations (8) and (9) in the same space as was done in figures 1 and 2.

The weighting of the row and column scores by the square root of the singular values as shown in equations (8) and (9) would normally be sufficient to allow a researcher to make all the desired comparisons among them in the same weighted Euclidean space. In the present case, however, the original matrix,  $\mathbf{X}$ , is a rectangularly stacked matrix with different actors' representations or slices of the entire social structure. As remarked in the text, different tie densities can influence the scale of each actor's representation in figure 1. We want to compare each actor's view (row score) of a particular actor's position, but this involves comparing row scores from representations that are on different scales. Correspondence analysis itself does not prescribe a standard transformation to bring the row scores within each slice to scale. Consequently, we invented a method of transforming row scores for each actor that would remedy the problem of scale, assuming that each actor is viewing the same social structure but has a different criterion for reporting a friendship tie. The solution was to transform each actor's 25 row scores to mean zero and variance equal to the singular value for each dimension. As mentioned, if anything, this transformation reduced, rather than enhanced, the size of the phenomena reported in the paper.

The correspondence analysis of the  $625 \times 25$  stacked matrix was represented in six dimensions; however, the figures in the paper display only the first two dimensions of the nontrivial solution. Dimensions correspond to singular values, and the larger a dimension's singular value, the more of the variance in the data is accounted for by that dimension. Table A1 presents the first six singular values along with the associated variance accounted for.

TABLE A1  
SINGULAR VALUES AND VARIANCE ACCOUNTED FOR  
IN THE CORRESPONDENCE ANALYSIS SOLUTION

Dimension	Singular Value	Variance (%)	Cumulative Variance (%)
1 .....	.544	8.2	8.2
2 .....	.484	7.3	15.4
3 .....	.445	6.7	22.1
4 .....	.420	6.3	28.4
5 .....	.362	5.4	33.9
6 .....	.346	5.2	39.1

# REFERENCES

- Borgatti, Stephen P., Martin G. Everett, and Linton C. Freeman. 1992. *UCINET IV*. Columbia, S.C.: Analytic Technologies.
- Burt, Ronald. 1982. *Toward a Structural Theory of Action*. New York: Academic Press.
- Cogan, Lucy C., Agnes M. Conklin, and H. L. Hollingworth. 1915. "An Experimental Study of Self-Analysis, Estimates of Associates, and the Results of Tests." *School and Society* 2:171-79.
- Festinger, Leon. 1957. *A Theory of Cognitive Dissonance*. Stanford, Calif.: Stanford University Press.
- Fisher, R. A. 1940. "The Precision of Discriminant Functions." *Annals of Eugenics* 10:422-29.
- Freeman, Linton C. 1979. "Centrality in Social Networks: Conceptual Clarification." *Social Networks* 1:215-39.
- . 1992. "Filling in the Blanks: A Theory of Cognitive Categories and the Structure of Social Affiliation." *Social Psychology Quarterly* 55 (2): 118-27.
- Freeman, Linton C., A. Kimball Romney, and Sue C. Freeman. 1987. "Cognitive Structure and Informant Accuracy." *American Anthropologist* 89:311-25.
- Freeman, Linton C., Douglas R. White, and A. Kimball Romney, eds. 1989. *Research Methods in Social Network Analysis*. Fairfax, Va.: George Mason University Press.
- Gifi, Albert. 1990. *Nonlinear Multivariate Analysis*. New York: Wiley.
- Goodman, Leo A. 1987. "New Methods for Analyzing the Intrinsic Character of Qualitative Variables Using Cross-classified Data." *American Journal of Sociology* 93:529-83.
- Greenacre, Michael J. 1984. *Theory and Applications of Correspondence Analysis*. London: Academic Press.
- Guttman, Louis. 1941. "The Quantification of a Class of Attributes: A Theory and Method of Scale Construction." Pp. 319-48 in *The Prediction of Personal Adjustment*, edited by P. Horst et al. Bulletin no. 48. New York: Social Science Research Council.
- . 1950. "The Principal Components of Scale Analysis." Pp. 312-61 in *Measurement and Prediction*, edited by S. A. Stouffer et al. New York: Wiley.
- Heider, Fritz. 1958. *The Psychology of Interpersonal Relations*. New York: Wiley.
- Kahneman, Daniel, and Amos Tversky. 1972. "Subjective Probability: A Judgment of Representativeness." *Cognitive Psychology* 3:430-54.
- . 1973. "On the Psychology of Prediction." *Psychological Review* 80:237-51.
- Krackhardt, David. 1987. "Cognitive Social Structures." *Social Networks* 9:109-34.
- Moreno, J. L. (1934) 1953. *Who Shall Survive?* 2d ed. New York: Beacon House.
- Newcomb, Theodore M. 1961. *The Acquaintance Process*. New York: Holt, Rinehart, & Winston.
- Nishisato, S. 1980. *Analysis of Categorical Data: Dual Scaling and Its Applications*. Toronto: University of Toronto Press.
- Ross, Michael, and Fiore Sicoly. 1979. "Egocentric Biases in Availability and Attribution." *Journal of Personality and Social Psychology* 37:322-36.
- Snijders, T. A. B. 1991. "Enumeration and Simulation Methods for 0-1 Matrices with Given Marginals." *Psychometrika* 56:397-417.
- SPSS. 1990. *SPSS Categories*. Chicago: SPSS.
- Tversky, Amos, and Daniel Kahneman. 1974. "Judgment under Uncertainty: Heuristics and Biases." *Science* 185:1124-31.
- Walsley, D. J. 1988. *Urban Living: The Individual in the City*. New York: Wiley.
- Warner, W. Loyd, Marchia Meeker, and Kenneth Eells. 1960. *Social Class in America*. New York: Harper & Bros.



- Wasserman, Stanley, and Katherine Faust. 1995. *Social Network Analysis: Methods and Applications*. New York: Cambridge University Press. In press.
- Wasserman, Stanley, Katherine Faust, and J. Galaskiewicz. 1989. "Correspondence and Canonical Analysis of Relational Data." *Journal of Mathematical Sociology* 1:11-64.
- Weller, Susan C., and A. Kimball Romney. 1990. *Metric Scaling: Correspondence Analysis*. Newbury Park, Calif.: Sage.
- Wilkinson, Leland. 1990. *SYGRAPH: The System for Graphics*. Evanston, Ill.: SYSTAT.

# Relative Fairness and the Division of Housework: The Importance of Options<sup>1</sup>

Mary Clare Lennon  
*Columbia University*

Sarah Rosenfield  
*Rutgers University*

In spite of employed married women performing approximately twice as much housework as their husbands, the majority of women believe this situation to be fair. This article investigates the sources and consequences of employed wives' perceptions of fairness in the division of housework. The findings support a social exchange explanation: women who have fewer alternatives to marriage and less economic resources are more likely to view a given division of housework as fair, while women with more alternatives view the same division as unjust. Also, women who perceive an unequal situation as unfair experience lower psychological well-being.

The sexual division of labor outside the home has changed dramatically in recent years, with over half of all married women currently in the U.S. labor force. In marked contrast, the division of labor inside the home remains largely unchanged. Although estimates vary somewhat, employed married women do around two-thirds of the household chores such as cooking, cleaning, and laundry. This amount is about twice as much as employed married men do (Pleck 1985; Ross 1987). Thus, there is a clear inequality in the distribution of housework between the sexes.

<sup>1</sup> Earlier versions of this manuscript were presented at the 1991 annual meetings of the American Sociological Association and the Society for the Study of Social Problems, Cincinnati, Ohio. Support for this research came from the National Institute of Mental Health (grant no. MH42974). We thank Naomi Gerstel, James M. Jasper, Bruce G. Link, Sharon Schwartz, and five *AJS* reviewers for helpful comments on the manuscript. We are grateful to Vaughan Call of the Center for Demography and Ecology of the University of Wisconsin—Madison for help with using the National Survey of Families and Households (NSFH). The NSFH was funded by a grant (HD21009) from the Center for Population Research of the National Institute of Child Health and Human Development. This research was conducted while the authors were Visiting Scholars at the Russell Sage Foundation, where we obtained substantive and editorial help from Robert K. Merton. Address correspondence to Mary Clare Lennon, Columbia University School of Public Health, 600 West 168th Street, New York, New York 10032.

Hochschild (1989) refers to this cultural lag as the "stalled revolution." For employed women, the result is a "second shift," in which wives expend more effort and time in paid and unpaid work and less in leisure time compared to husbands (Bielby and Bielby 1988; Hochschild 1989).

This stalled revolution has consequences for married employed women. Ross, Mirowsky, and Huber (1983) suggest that, in general, lags between macro-level social changes have negative repercussions for individuals. Studies find that employed wives are less satisfied with their marriage if their husbands fail to share in housework (Staines and Libby 1986; Yogev and Brett 1985; White 1983). Having the major responsibility for domestic labor also decreases women's psychological well-being (Kessler and McRae 1982; Krause and Markides 1985; Lennon, Wasserman, and Allen 1990; Pleck 1985; Ross and Mirowsky 1988; Ross et al. 1983). Married employed women have higher rates of depressive symptoms than married employed men. Women's overload of familial demands in part explains these elevated rates. For example, depressive symptoms are higher for women in "transitional marriages," in which wives are employed and husbands do not share housework, compared to employed women whose husbands do share housework (Ross et al. 1983). When the division of household labor is equal, employed women have levels of depressive symptoms equal to those of employed men (Rosenfield 1989).

Given this burden of demands and its negative consequences for satisfaction and well-being, why would women accede to such an unequal arrangement? Some researchers suggest that it is because women do not evaluate the situation as unjust. Although most women do most of the family work, only one-quarter to one-third see this arrangement as unfair (Barnett and Baruch 1987; Benin and Agostinelli 1988; Berk 1985; Hill and Scanzoni 1982; Pleck 1985; Rosen 1987; Yogev 1981). This assessment holds among women in dual-earner marriages, in which wives and husbands are employed full-time. In fact, even among professional wives in dual-career couples, only a minority say that their husbands do too little work in the home (Yogev 1981). This fits into a larger pattern among women of allocating fewer rewards to themselves. When asked to distribute rewards between themselves and others, men tend to divide rewards equitably, in proportion to performance, while women tend to allocate rewards equally, giving themselves the same rewards as others even when they do more (Major 1987).<sup>2</sup>

<sup>2</sup> *Equity* refers to each individual obtaining rewards proportional to input, whereas *equality* refers to each individual receiving the same rewards.

The question thus becomes: What determines employed women's perceptions that it is fair for them to do a larger share of household chores? The basis of this evaluation of fairness is unclear when women work outside the home. The present study addresses this apparent contradiction in the lives of most employed wives. In addition to investigating the basis of fairness evaluations, we examine the consequences for well-being of defining an unequal division of work as fair or unfair. Several theoretical frameworks bear on these issues. We first examine a social exchange perspective and then present two contrasting approaches.

### Determinants of Perceptions of Fairness: A Social Exchange Perspective

There is little information on what determines women's sense of fairness in the distribution of housework (Benin and Agostinelli 1988; Thompson 1991). However, a social exchange perspective suggests in general that power and dependency influence assessments of fairness. Exchange theory holds that power over others depends on individuals' resources and on their available alternatives to a situation or relationship (Thibaut and Kelley 1959; Blau 1964). Economic resources in particular are seen as a primary basis of power (Weber 1946; Blood and Wolfe 1960; Rodman 1967). Power also depends on constraints leading individuals to remain in a relationship. People endure more when the costs of withdrawing from the situation are high (Thibaut and Kelley 1959; Cook and Emerson 1978; Levinger 1979).

Applying this general framework to the family, researchers have observed that the spouse who has fewer economic resources and who needs the other more has less influence on outcomes and decision making (Waller [1938] 1951; Heer 1963; Safilios-Rothschild 1970; Hiller 1981; Curtis 1986). This formulation was expressed by Waller (1951) as the principle of least interest. The person whose need for the relationship is greater is less able to determine the conditions of the relationship. Using economic exchange terms, Mirowsky (1985) proposed that the spouse with skills and investments that are less transferable has fewer alternatives and thus less power in the marriage. For example, wives' skills of doing housework are less transferable than husbands' skills of earning money (Mirowsky 1985). Wives' investments are also more specific to family members, leaving them more dependent than husbands, who produce more benefits outside their marriage (England and Kilbourne 1990).

These bases of power have implications for perceptions of justice. Evaluations of fairness depend on individuals' expectations, which, in turn, are based on social comparisons. As Homans (1961) states, justice

obtains when ratios of outcomes to investments are equal for both persons in a social exchange. In determining fair treatment, individuals compare their actual rewards to those they think they deserve (Thibaut and Kelley 1959; Berger et al. 1972; Jasso 1978). On this reasoning, individuals can be objectively deprived without feeling dissatisfied because, in comparing their rewards with those of persons perceived to be similar, they do not feel entitled to more (Merton [1957] 1968; Homans 1961). This reference-group process has been found among women who are satisfied with lower earnings than men in a comparable position because they compare themselves to other women rather than to men (Crosby 1982; see also Bielby and Bielby 1988).

Having fewer resources reduces individuals' expectations of relationships, because it restricts the availability of rewards (Thibaut and Kelley 1959). Those having fewer alternatives also have lower expectations of a relationship, because they have more to lose from its disruption than those with more options. Fewer resources and alternatives also work to limit reference groups and individuals: people compare themselves to others in similarly restricted circumstances and thus expect less from any given exchange. In summary, a social exchange perspective suggests that fewer resources and options compromise expectations and thereby diminish the standards for fairness, while greater resources and options heighten expectations and raise standards of fairness.

In her qualitative study of married couples, Hochschild (1989) offers a provocative portrayal of women's assessment of housework that illustrates these elements of social exchange. She proposes that employed women's hopes for greater equality in housework are counteracted by their lower wages and status at work and by the threat of divorce, which would drastically reduce their standard of living. Warned by the high rates and visibility of divorce, women conclude that they have to do more work to keep their husbands happy. Their relatively low wages and the risk of divorce lead women to lower their expectations, with the result that they feel grateful for whatever housework their husbands do.

Thus, theory and evidence converge to suggest that employed married women's perceptions of fairness are determined by their power as gauged by their resources and their alternatives to marriage. Having fewer economic resources than their husbands and trapped by limited options, women are induced to define an objectively unequal situation as just. However, this social exchange perspective has not been tested by systematic empirical research designed to explain the evaluation of the division of housework by employed married women. That is the focus of our research. We hypothesize that the lower the income of employed wives

compared to that of their husbands and the more they stand to lose with divorce, the more likely they are to perceive an unequal division of housework as fair. The higher their relative income and the greater their alternatives, the more likely employed women are to define the same situation as unjust.

### Determinants of Relative Fairness: Competing Perspectives

Other theoretical perspectives bear on the sources of women's perceptions of fairness in the distribution of housework. A cultural perspective suggests that ideology rather than power underlies evaluations of fairness. Some women believe that, even when employed, they should do most of the domestic work or that there are justifiable reasons why men do not participate equally (see Thompson [1991] for a review). According to this explanation, the more conventional their gender ideology, the more likely employed wives are to perceive an unequal division of household work as just, while the less conventional the ideology, the more likely the same division will be defined as unjust.<sup>3</sup>

Neoclassical economics offers another explanation. This approach claims that perceptions of fairness depend on rational choices in the distribution of labor among household members rather than on ideology or power. From this viewpoint, one must examine the total household work effort in analyzing domestic labor: even employed women may perceive housework as a fair exchange if their husbands expend greater effort in paid work. (Becker 1981). Husbands who work more hours outside the home may thus be excused from doing housework. According to this perspective, the smaller the proportion of hours wives spend in paid work as compared with the time their husbands spend, the more they are likely to perceive an unequal division of housework as fair.

### The Consequences of Relative Unfairness

Having examined the sources of perceived fairness, we go on to assess the emotional price women pay for living in a situation they feel is unjust. We address Ferree's question: Who is more liable to be depressed, "employed women who are angry about how little housework their husbands

<sup>3</sup> In a previous analysis of the data set we use here, Blair and Johnson (1992) did not find a significant association between conventional gender ideology and perceptions of fairness. However, that analysis split the items on ideology into two measures, one with four items and another with one item. A sixth item, on approval of mothers' part-time employment, was omitted. We find that splitting these items compromises the reliability and that the reliability increases from .55 with the four-item measure to .72 with all six items. Thus, we reanalyze the data using the more reliable measure.

do or those who are resigned to it?" (Ferree 1991, p. 177). Mirowsky (1985) applies equity theory to the relation of inequity and psychological distress in studying family decision making. He posits and finds a U-shaped relationship between involvement in marital decision making and depressive symptoms and assumes that the optimal level of involvement or the "equity point" occurs where symptoms are minimal. We extend Mirowsky's work by examining directly the association between perceptions of fairness and psychological well-being. We hypothesize that employed wives who perceive the division of housework to be unfair will have more symptoms of depression.

We test these hypotheses empirically by using data from a large, national study of U.S. households. The analyses entail several stages. The first stage compares employed married women and men on the division of household work, on perceptions of fairness, and on the relation between the two. The next stage focuses on the sources and consequences of perceptions of unfairness among employed wives. We test social exchange theory by investigating the importance of relative economic resources and marital options in explaining perceptions of fairness. We also test other explanations of perceptions of fairness, specifically, gender ideology and number of hours in paid work. Subsequently, we consider the consequences of perceptions of fairness or unfairness for women's psychological well-being by testing the relationship between these perceptions and symptoms of depression.

## METHODS

### The Sample

Data for the study come from the National Survey of Families and Households (NSFH), conducted in 1987–88 by the Center for Demography and Ecology at the University of Wisconsin—Madison. Interviews were conducted with individuals from 13,017 households by the Institute for Survey Research at Temple University. The sample includes a main sample of 9,643 individuals selected to be representative of the U.S. population. An additional 3,374 individuals were selected to overrepresent minorities, one-parent families, families with stepchildren, cohabitators, and recently married persons. The main sample is a national multistage area probability sample. The oversample was selected by doubling the probability of selection for the overrepresented groups. The total of 13,017 individuals represents an overall response rate of 74.4%. The design and content of the NSFH are described in greater detail by Sweet, Bumpass, and Call (1988).

The interview schedule consisted of two parts: an in-person interview

and a self-administered section. Data for our investigation come from both parts of the interview.<sup>4</sup> Because our primary interest is in the division of housework among employed married persons, we restricted the sample to employed individuals between ages 18 and 65 who are married and living with their employed spouses. Since these individuals ( $N = 3,236$ ) are not married to one another, the samples of husbands and wives are drawn independently.

Table 1 gives the demographic characteristics of this subsample of dual-earner individuals. The means and percentages presented are based on data weighted to reflect the U.S. population. Weights were developed to account for features of the sample design and for nonresponse. All analyses in this investigation use weighted data and thus are generalizable to the U.S. population of individuals in dual-earner marriages.

### Measures

*Division of housework.*—The self-administered questionnaire contained the respondent's assessment of the number of hours per week that he or she spent on various household tasks as well as the number of hours spent by the spouse and other persons in the household.<sup>5</sup> After calculating the total amount of time spent on all tasks, we classified tasks into two categories: traditionally "female" tasks (i.e., preparing meals, shopping, cleaning, laundry, and doing dishes) and "male" tasks (i.e., paying bills, working outside the house, and taking care of the car), since the literature suggests that husbands' involvement in female tasks is

<sup>4</sup> Data for this study are derived from interviews with the primary respondents, with the exception of the spouses' hours employed. This latter information was available only from spouse reports, but only 82% of husbands participated in the secondary survey. Moreover, as described below, there are substantial missing data on household task items. As a result, the analysis reported in table 5, which includes hours of paid work and housework, has far more missing data than the analysis in table 6. When we did the analysis reported in table 5 with means substituted for missing data, our results were similar to those reported here.

<sup>5</sup> The assessment of time spent on various household tasks was part of the self-administered questionnaire. Many respondents (34%) were missing data on one or more of these scales, because some reported that the time spent on tasks "varies" and some failed to report time spent by their spouses. We substituted the average time spent on each task separately for missing data if the respondent was missing data on one or two tasks or reported that time varied on three or fewer tasks. These calculations and substitutions were performed separately for employed women and men. Even with these substitutions, 32.5% of cases are missing data on household tasks. A small number of cases (1%) reported spending more time per week at household tasks than there are waking hours. While recognizing that individuals may do more than one task simultaneously, we truncated scores of individuals who reported spending 120 hours or more per week.



TABLE 1  
DEMOGRAPHIC CHARACTERISTICS OF SUBSAMPLE

Characteristic	Description
Gender .....	48.4% female
Education .....	Median is 13 years, with a range of 0–20 years
Age .....	Median is 38 years, with a range of 18–65 years
Race/ethnicity .....	86.3% are white, 7.3% black, 5.0% Hispanic, and 1.4% other
Employment status .....	82.1% are employed full-time
Parental status .....	64.5% have children younger than 19 at home
Couple's annual income from earnings .....	Median is \$39,600, with a range of \$325–\$975,000

NOTE.— $N = 3,236$ .

important for wives' sense of fairness (Blair and Johnson 1992). It should be emphasized that "female" tasks are more time-consuming and less flexible than are "male" tasks (Thompson and Walker 1989; Ferree 1991).

For each of these two categories of tasks, we calculated the number of hours spent on each type of task by the respondent and by others in the household. We computed the proportion of hours that the respondent spent on housework by dividing the number of hours he or she spent by the total amount that the couple spent on each category of tasks. We refer to these measures of absolute and relative time spent on housework as the actual distribution of work, in contrast to evaluations of the fairness of this distribution.

*Relative fairness.*—Perceptions of fairness were assessed with one item that asked respondents to rate the fairness of their marital division of household chores. To be consistent with the literature on distributive justice (e.g., Jasso 1979; Walster, Walster, and Berscheid 1978), we recoded responses to this item as:  $-1$  = very unfair to me;  $-.5$  = somewhat unfair to me;  $0$  = fair to both;  $.5$  = somewhat unfair to my spouse;  $1$  = very unfair to my spouse. This coding reduces multicollinearity between the linear and quadratic variables and, as described later, it facilitates interpretation of the regression coefficients.<sup>6</sup>

*Economic resources.*—Our measure of wives' economic resources relative to husbands' consists of the percentage of income they contributed to the household. It was calculated by dividing the amount of wives' earnings by the total earnings of the couple. On average, employed women's earnings represented 35% of the couples' earnings.

<sup>6</sup> We are grateful to one of the *AJS* reviewers for suggesting this coding.

*Options.*—We used two approaches to measuring options among married employed women. The first relied on wives' assessment of whether their lives would worsen or improve were they not married. The specific question was: "Even though it may be very unlikely, think for a moment about how various areas of your life might be different if you separated. For each of the following areas, how do you think things would change?" We selected three nonmarital areas of life for our measure of perceived options: standard of living, social life, and career opportunities.<sup>7</sup> Response categories ranged from 1 = much worse through 5 = much better. The three areas of life were averaged to form a measure of perceived options. The reliability coefficient for this scale is .62 (Cronbach's  $\alpha$ ).

In testing the possibility that perceptions of options might simply reflect marital quality, we found a significant association when we regressed perceived options on a measure of marital happiness described later. In that analysis (which also controlled for age, number of children at home, conventional gender ideology, couples' earnings, employment status [full- vs. part-time], and education) we also found that race and relative earnings contribute significantly to perceived options. Specifically, women whose marriages are unhappy, black women, and women who contribute more to the couple's earnings report more perceived alternatives to marriage. From this it appears that the measure of perceived options reflects both the quality of the marriage and an awareness, rooted in race and income, that alternatives to marriage are feasible and acceptable. In assessing the association of perceived options to fairness, therefore, we control for marital happiness, race, and income in addition to other variables described below. These controls permit the assessment of the contribution of options, net the influence of other potentially confounding variables.

The second approach to measuring options assessed the economic situation of women were they no longer married. Specifically, we constructed an indicator of whether wives would fall into poverty if they had to rely on their own earnings to support themselves and their children. Using data provided by the NSFH on 1986 poverty threshold by family size, we created a dummy variable called "poverty potential," with "1" indicating that a woman and her children (if any) would fall below the pov-

<sup>7</sup> Respondents were also asked to rate the quality of their future overall happiness, sex life, and being a parent. We did not include the latter item because not every wife is a mother. We removed items on future happiness and sex life at the suggestion of one reviewer, because they might overlap with marital happiness. However, analyses indicate that the effect of perceived options is essentially the same whether the 3-item or 5-item indicator is used. We report the 3-item measure because it focuses on nonmarital options.

erty line were it necessary for her to rely for support on her earnings alone and "0" indicating that her earnings would be at or above the poverty line.<sup>8</sup> A substantial minority of women (30%) would meet the criteria for poverty were their husbands absent and their family dependent solely on their current earnings.<sup>9</sup>

*Relative hours of paid work.*—To assess the relative number of hours of wives' employment, we divided the number of hours wives spent in paid work by the total number of hours spent by the couple. The hours of employment included the time usually spent both on a primary job and on a second job, when applicable. Wives in dual-earner families contributed an average of 43% to the total hours spent in paid work by the couple.

*Conventional gender ideology.*—Six items were used to measure conventional gender ideology. Respondents were asked how much they agreed (on a 1–5 scale) with the following four statements: (1) it is much better for everyone if the man earns the main living and the women takes care of the home and family; (2) preschool children are likely to suffer if their mother is employed; (3) parents should encourage just as much independence in their daughters as in their sons; (4) if a husband and a wife both work full-time, they should share household tasks equally. They were also asked how much they approved (on a 1–7 scale) of the following two items: (5) mothers who work full-time when their youngest child is under 5 and (6) mothers who work part-time when their youngest

<sup>8</sup> We are grateful to an anonymous reviewer for suggesting that we include an indicator of postdivorce standard of living as an objective indicator of options. One possible problem with basing this on women's current earnings is that some women may supplement their earnings with alimony and child support. However, only one-third of families receive child support after divorce, and among those the level of support is usually not sufficient to raise income above the poverty line (Furstenberg and Harris 1992). Also, there is some error in our measure of potential poverty status, because our measure of children at home includes those 18 years old and under while the NSFH counts only children under 18 in assessing poverty status. However, this is likely to make it more difficult to find support for our hypothesis, since we would classify as below the poverty line some women who would be at or above it in the NSFH data.

<sup>9</sup> This indicator differs from wives' contributions to family income, which characterizes the resources that wives currently have access to within their marriage relative to their husbands. The indicator of poverty potential, like the measure of perceived options, characterizes a future possibility for women were they not married. Poverty potential is an objective indicator of the economic future that wives might confront were their marriage to end. Using a logistic procedure, we regressed poverty potential on a range of demographic factors, gender ideology, and marital happiness. Since the indicator is based on earnings and number of children at home, these variables are significantly associated with it. Controlling for these influences, education is also a significant predictor, with lower education increasing the likelihood of poverty potential.

child is under 5. We standardized the item ranges, reversed the scoring on items 3–6, and averaged responses on the six items to form a scale of conventional gender ideology ( $\alpha = .72$ ).

*Psychological well-being.*—To assess psychological well-being, we used 12 items from the CES-D scale (Radloff 1977) that Ross and Mirowsky (1984) found unbiased by gender. These items predominantly measure depressive symptomatology and include the following: you were bothered by things that usually don't bother you; you felt lonely; you felt that you could not shake off the blues, even with help from your family or friends; your sleep was restless; you felt depressed; you felt that everything you did was an effort; you felt fearful; you had trouble keeping your mind on what you were doing; you talked less than usual; you did not feel like eating, your appetite was poor; you felt sad; you could not get going. Reliability is .92 (coefficient  $\alpha$ ). Scale scores were log transformed to normalize the distribution of the residuals.

*Control variables.*—Variables that could affect the association of relative fairness, resources, options, and depressive symptoms were statistically controlled in those analyses. The demographic variables are years of education, race and ethnicity, age,<sup>10</sup> employment status (full- or part-time), number of children 18 years old or younger in the household, and family earnings (see table 1). The actual amount of time and the percentage of time spent on housework were also controlled in analyses of fairness, since the latter was significantly related to perceptions of fairness in previous analyses of the data set used here (Blair and Johnson 1992). We also added a measure of marital happiness to the equation predicting relative fairness. This measure is based on a question about how wives describe their marriages. Responses range from 1 (very unhappy) to 7 (very happy), with an average of 5.86.

### Data Analysis

We analyzed the data using bivariate and multiple regression. As noted above, in order to obtain sample statistics that represent the national population, we applied sample weights to adjust for design features and for nonresponse. While the calculation of sample statistics based on weighted data is relatively straightforward, with complex survey designs, conventional estimation of variance tends to produce biased estimates. To obtain unbiased estimators, we used the balanced repeated replication

<sup>10</sup> We first tested for interaction effects with race or ethnicity and with age to see whether our results varied by race or ethnicity or by life-cycle stage. We found no significant interactions.

TABLE 2  
DIVISION OF HOUSEWORK BY GENDER

Division of Housework	Men	Women
No. of hours per week:		
All tasks .....	18.2	33.2
Female tasks .....	9.3	29.4
Male tasks .....	9.0	3.8
Respondent's relative contribution:		
All tasks (%) .....	34.5	68.2
Female tasks (%) .....	23.4	78.1
Male tasks (%) .....	69.1	35.3
<i>N</i> .....	1,126	1,057

NOTE.— $P \leq .001$  for all data. The relative contributions by men and by women in each task category will not add up to 100%, because the respondents are not married to each other; the denominator is respondents' housework plus their spouse's housework. See n.5 for an explanation of why total *N* here is less than total *N* for the study (3,236).

(BRR) method (Deming [1950] 1966; Kish and Frankel 1970, 1974).<sup>11</sup> All coefficients reported are unstandardized.

## RESULTS

### Gender and Housework

The first analysis compares the amount of housework done by women and men from dual-earner marriages. Table 2 presents the total number of hours and the proportion of time that women and men spend on household chores overall and on traditionally female and traditionally male tasks, separately.

We find that employed men do an average of 18.2 hours of housework a week. This time represents 34.5% of all the housework done by the couple. In contrast, employed women report doing 33.2 hours of housework each week, almost twice as much as employed men. Women's proportion of all household chores is 68.2%. This amount compares closely with men's report that their wives perform 65.5% of household chores. This level of agreement is notable in light of the fact that the samples of women and men in dual-earner marriages are drawn independently. Moreover, these results replicate other studies that have used more precise measures, such as daily diaries.

<sup>11</sup> For a discussion of the calculation of SEs, see the appendix.

TABLE 3  
PERCEIVED FAIRNESS OF HOUSEWORK BY GENDER

Perceptions of Fairness	Men (%)	Women (%)
Unfair to self .....	4.3	35.3
Fair to both .....	67.5	60.8
Unfair to spouse .....	28.2	3.9
<i>N</i> .....	1,545	1,691

NOTE.— $P \leq .001$  for all data.

The distribution of male and female chores also differs greatly. Men's housework hours are split almost evenly between female (9.3 hours) and males chores (9.0 hours), whereas the bulk of women's hours are spent on female chores (29.4 of 33.2 total hours). Moreover, each gender dominates the tasks associated with their own gender: women average 78.1% of female tasks and men average 69.1% of male tasks.

#### Gender and Relative Fairness

Perceptions of fairness of the distribution of household work also vary by gender. In light of women's disproportionate share of housework, we expect a greater sense of unfairness among wives than husbands, and that is what we find. On average, compared to men, women see the distribution of household chores as less fair to themselves. The mean relative fairness score is  $-.19$  for women and  $.13$  for men ( $t = 17.5$ ;  $P < .001$ ).

Table 3 presents data on this association somewhat differently. Here we categorize fairness scores on three levels: very or somewhat unfair to oneself, fair to both spouses, very or somewhat unfair to the spouse. About two-thirds of employed men feel that the division of housework is fair to them and to their employed spouses. Only 4.3% believe that housework is unfair to themselves, while 28.2% see it as unfair to their wives. The proportion of women who feel that housework is fair to both spouses is strikingly similar to that of men (60.8% vs. 67.5%). A clear majority of both women and men believes that their household chores are distributed fairly. The main difference between men and women appears among the minority who feel that housework is unfairly divided. About one-third (35.3%) of women see the division of housework as unfair to themselves; only 4.3% of men see it as unfair to themselves.

TABLE 4  
PERCEIVED FAIRNESS AND DIVISION OF HOUSEWORK BY GENDER

RESPONDENT CONTRIBUTION TO HOUSEWORK	UNFAIR TO SELF		FAIR TO BOTH		UNFAIR TO SPOUSE		<i>t</i>
	%	Hours	%	Hours	%	Hours	
Men:							
All tasks .....	48.5	23.3	36.0	18.5	28.8	16.8	
Female tasks .....	37.7	14.7	24.9	9.7	17.4	7.4	−10.53***
Male tasks .....	76.6	8.6	70.1	8.8	65.5	9.4	−3.36**
<i>N</i> .....	53		756		317		
Women:							
All tasks .....	73.7	33.8	65.9	33.1	57.8	29.1	
Female tasks .....	84.0	30.2	75.9	29.2	64.8	25.4	−7.89***
Male tasks .....	37.9	3.6	33.9	4.0	35.4	3.7	−1.34
<i>N</i> .....	371		634		52		

NOTE.—Means shown are based on bivariate analysis; tests of significance are derived from regressing perceptions of fairness on the proportion of female and male tasks, controlling for education, age, race or ethnicity, no. of children, marital happiness, conventional gender ideology, hours of housework performed by others, hours of female tasks performed by the couple, and hours of male tasks performed by the couple. Results of the full regression are shown in table 5.

\*\*  $P \leq .01$ .

\*\*\*  $P \leq .001$ .

Thus, there appears to be some parallelism in the proportion of men and women who feel that housework is unfair to the husband: approximately 4% of husbands and wives agree on this. However, husbands and wives disagree somewhat about whether housework is unfair to wives. Women are slightly more likely to think so than men (35.3% vs. 28.2%). This disagreement is small in light of the extent to which husbands and wives appear to agree that the distribution of housework is fair. Our next analysis explores the association between fairness assessments and the actual division of household chores separately for women and men.

### Gender, Housework, and Fairness

Thus far we find that, although women do a larger share of household chores, the majority believes that housework is distributed fairly. This raises the possibility that women and men have different equity points (Mirowsky 1985), the points at which the division of work is seen as fair. To examine this issue, we looked at the relationship between the division of housework and relative fairness separately for women and men. We present results, as before, by three levels of perceived fairness. The means reported in table 4 are derived from bivariate analyses. We conducted

statistical tests of the relation of fairness to household tasks by means of multiple regression analysis. In these analyses we regressed fairness on the proportion of female and male chores done by the respondent, controlling for education, age, race and ethnicity, hours employed, number of children at home, marital happiness, conventional gender attitudes, options, potential poverty status, spouses' hours employed, earnings, spouses' earnings, and hours of housework done by others.

Considering men's reports first, we find that men who see housework as unfair to themselves average just less than half of all chores (48.5%). Those who see housework as unfair to their wives average just over one-quarter (28.8%) of all chores. The equity point for men appears at an average of 36% of household chores. Looking at female and male tasks separately, men believe housework is fair if they average 24.9% of female chores and 70.1% of male chores. Men's relative contribution to both female and male chores is significantly associated with their perceptions of fairness.

Considering next the relationship between housework and relative fairness for women, we find that women who believe that the distribution of housework is unfair to them do about three-quarters of all chores (73.7%). Women who see this distribution as unfair to their husbands do somewhat more than half (57.8%) of all household chores. Women's equity point is 65.9%, nearly twice as high as men's (36%). When chores are classified as male and female, we find that the association of female chores, but not male chores, and fairness is statistically significant among women.

These results show that fairness in housework does not mean sharing chores equally. Rather, both women and men appear to believe that women should do about two-thirds of the household chores. Moreover, both women and men agree that they are each required to do more than half of their gender-typed tasks. On the basis of their reports, women who feel housework is unfair to their husbands average 64.8% of female chores; men who feel housework is unfair to their wives average 65.5% of male chores. Similarly, men and women believe that they are required to do less than half of the other gender's tasks. Thus, women who feel housework is unfair to themselves report that they do an average of 37.9% of male tasks; men with similar feelings report that they do an average of 37.7% of female chores.

In sum, there is a marked similarity in men's and women's independent assessments of where the equity points for housework lie. Again, this agreement between husbands and wives is striking because the samples of women and men were drawn independently. It is important to keep in mind that this agreement reflects a general acceptance of an unequal



division of housework, with women spending many more hours on the routine, time-consuming, traditionally female tasks.

### Resources, Options, and Fairness

Since women tend to believe that it is fair for them to assume a disproportionate share of household chores, our next question is, Why do women accept an unequal division of housework, given that it is so costly of their time and energy? In addressing this question, we test our hypotheses derived from exchange theory and from previous research that wives' perceptions of fairness would depend on their relative resources and on their options outside of marriage. We test, as well, for competing hypotheses that conventional gender ideology and time in paid work will influence wives' evaluations of fairness.<sup>12</sup>

Table 5 presents the regression of relative fairness on conventional gender ideology, hours employed, relative earnings, and options to marriage. This analysis adjusts for the division of housework by adding indicators of the total number of hours that the couple spends on male and female chores and the relative amount of time the wife spends on these chores. Other covariates in this analysis include education, age, race and ethnicity, number of children 18 years old or younger living in the home, amount of housework done by someone other than the respondent or her husband, and marital happiness.

First, we evaluate the covariates and find that two are associated significantly with relative fairness: wives' contribution to female chores and

<sup>12</sup> This analysis is limited to wives and thus may appear to restrict our ability to evaluate the exchange model. However, we believe that the asymmetry in the analysis in part reflects the asymmetry in the situation of employed husbands and employed wives. While a majority of both men and women believe the situation to be fair, a substantial minority of women (35%) and men (28%) agree that this situation is unfair to the wife. We suspect that husbands might have explanations for their views different from those we proposed for employed wives—not because the tenets of exchange theory are not applicable to men as well as women, but because women tend to be the less powerful party in the marital exchange. The question for women becomes: Under what circumstances do they see the distribution of housework as unfair to themselves? The question for men is: Under what circumstances do they see the distribution of housework as unfair to their wives? To answer these different questions requires different frameworks. For employed wives, we have proposed that the answer can be derived from exchange theory. For employed husbands, we think that men who are less conventional with respect to the traditional male role will tend to recognize the unfairness of an unequal distribution of domestic work. Parallel analyses on men showed that men who more equally share hours of paid work with their wives, those with more education, younger men, and those with less conventional gender attitudes are more likely to see unequal domestic work as unfair to their wives.

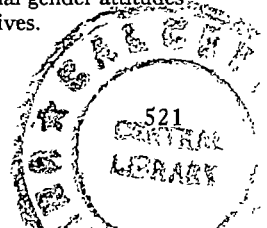


TABLE 5

## REGRESSION OF RELATIVE FAIRNESS PERCEPTIONS FOR EMPLOYED WIVES

	b	SE (b) <sup>a</sup>
Covariates:		
Education (years) .....	.003	.006
Age .....	.002	.001
Race/ethnicity: <sup>b</sup>		
Black .....	.005	.063
Hispanic .....	.081	.080
Other .....	.010	.075
No. of children .....	-.018	.012
Marital happiness .....	.048***	.010
Hours others spend on household chores .....	-.000	.002
Hours couple spends on female chores .....	.000	.001
Hours couple spends on male chores .....	.003	.002
% female tasks done by respondent .....	-.007***	.001
% male tasks done by respondent .....	-.001	.001
Conventional gender ideology .....	.002	.015
Hours of employment:		
Couple's hours .....	.001	.001
% of hours from respondent .....	-.001	.001
Earnings:		
Couple's earnings .....	.000	.000
% of earnings from respondent .....	.000	.001
Options:		
Perceived options <sup>c</sup> .....	-.044*	.019
Poverty potential <sup>d</sup> .....	.107*	.049
Adjusted R <sup>2</sup> .....	.18	
N (unweighted) .....	789	

NOTE.—Perception of fairness is coded as follows: -1 = very unfair to me; -.5 = unfair to me; 0 = fair to me and my spouse; .5 = unfair to my spouse; 1 = very unfair to my spouse.

<sup>a</sup> SEs are derived from the BRR method, see appendix.

<sup>b</sup> Reference group = white.

<sup>c</sup> High score = more options.

<sup>d</sup> Reference group = at or above poverty threshold.

\*  $P \leq .05$ ; \*\*  $P \leq .01$ ; \*\*\*  $P \leq .001$ .

marital happiness. As reported earlier, women who contribute relatively more to the time-consuming female tasks are more likely to experience the distribution of housework as unfair than are women who do relatively less. Also, women who report greater happiness in their marriage are more likely to see housework as fair.

Next, we consider the predictions that ideology and time in paid work color perceptions of fairness. There is no statistically significant association between conventional gender ideology and perceived relative fairness. Nor is there evidence that wives who contribute relatively less to

time in paid work evaluate the distribution of housework as more fair than other wives. Thus, this analysis supports neither of these explanations.<sup>13</sup>

Finally, we examine the hypotheses derived from social exchange theory. There is no statistical support for the notion that wives' resources, in terms of their relative contribution to family income, are associated with perceptions of fairness. However, consistent with exchange theory, there are statistically significant associations between both measures of options and perceived fairness. Women who believe their lives would be worse outside marriage are more likely to view the division of housework as fair, and women who would fall below the poverty threshold should they become dependent on only their own earnings are more likely to view this division as just. In other words, all else being equal, the same division of housework appears less unfair to wives who have fewer perceived options and a greater potential for poverty than to wives with better alternatives.

### Consequences of Relative Unfairness

A final issue concerns the consequences of perceptions of fairness for psychological well-being. We hypothesized that perceptions of unfairness would result in lower well-being for employed married women.<sup>14</sup> To examine this, we regressed depressive symptoms on perceived fairness. This analysis included a squared term to capture the U-shaped relationship between relative fairness and distress that Mirowsky (1985) found between marital decision making and distress. It also controlled statistically for level of education, age, race and ethnicity, employment status,

<sup>13</sup> We also assessed the possible contribution of each of these variables by conducting separate regression analyses of relative fairness on gender attitudes (controlling for the covariates) and on hours in paid work (again controlling for the covariates). In neither case did these variables contribute to relative fairness.

<sup>14</sup> The generalizability of these results with regard to men may also be questioned. However, the different meaning of unfairness in housework for husbands and wives makes us skeptical about parallel analyses on husbands. In support of this, a recent analysis by Robinson and Spitze (1992) finds that considerations of fairness in housework are associated with levels of distress among married women but not among men. In addition, in an analysis of NSFH data, Glass and Fujimoto (1994) report that unfairness in paid work is associated with depressive symptoms among men. This study assessed the linear association of unfairness and depressive symptoms. We assessed the quadratic effect of unfairness in paid work, using the same approach we took to the analysis of wives' depressive symptoms. Our results suggest that the same U-shaped association between unfairness and depressive symptoms exists among men, only with unfairness being assessed relative to the distribution of paid work. These results are consistent with the general proposition of equity theory that unfairness, whether to oneself or someone else, is likely to be distressing.

TABLE 6  
REGRESSION OF DEPRESSIVE SYMPTOMS ON RELATIVE FAIRNESS  
FOR EMPLOYED WIVES

	b	SE (b) <sup>a</sup>
Covariates:		
Education (years) .....	-.017***	.005
Age .....	-.003**	.001
Race/ethnicity: <sup>b</sup>		
Black .....	.052	.050
Hispanic .....	-.031	.063
Other .....	.107	.157
Employment status (full-time = 1) .....	.013	.033
No. of children .....	-.015	.011
Marital happiness .....	-.070***	.012
Conventional gender ideology .....	.034*	.016
Couple's earnings .....	-.000	.000
% of earnings from respondent .....	-.000	.001
Perceived options <sup>c</sup> .....	.077***	.024
Poverty potential <sup>d</sup> .....	.015	.044
Perception of fairness <sup>e</sup> .....	.086	.070
Perception of fairness squared .....	.188*	.084
Adjusted R <sup>2</sup> .....	.10	
N (unweighted) .....	1,485	

<sup>a</sup> SEs are derived from the BRR method, see appendix.

<sup>b</sup> Reference group = white.

<sup>c</sup> High score = more options.

<sup>d</sup> Reference group = at or above poverty threshold.

<sup>e</sup> Perception of fairness is coded as follows: -1 = very unfair to me; -.5 = unfair to me; 0 = fair to me and my spouse; .5 = unfair to my spouse; 1 = very unfair to my spouse.

\*  $P \leq .05$ .

\*\*  $P \leq .01$ .

\*\*\*  $P \leq .001$ .

children, conventional gender ideology, couple's earnings, wives' relative earnings, and options.

Results of this analysis are presented in table 6. Looking first at the control variables, we find significant negative associations of education, age, and marital happiness with depressive symptoms. Conventional gender ideology and perceived options are positively related to symptoms. Thus, depressive symptoms are higher among younger women, women with little education, those who are unhappy with their marriage, women who endorse conventional gender ideology, and those who believe they have better alternatives to marriage.

The test of the association between perceived fairness and symptoms yields a nonsignificant linear effect and a significant positive quadratic effect. Taken together, these unstandardized coefficients indicate that

the association of relative unfairness and depressive symptoms is best expressed by a U-shaped function (Aiken and West 1991). Symptoms of depression are minimized when household tasks are perceived to be fair; they are maximized when household chores appear to be unfair either to oneself or to one's spouse. Differently put, wives in dual-earner families who see the division of housework as unfair have more symptoms of depression than wives who see it as fair.

This pattern of association is consistent with Mirowsky's (1985) finding that the relation of family decision making and distress is curvilinear and, more generally, with the predictions of exchange theory that unfairness, whether to oneself or to others, is more dissatisfying than fairness (Homans 1961; Walster et al. 1978). However, among women who believe that housework is distributed unfairly, most feel that they and not their spouses are unfairly burdened. Thus, the higher rates of depressive symptoms derive primarily from wives' feelings that the distribution of housework is unfair to themselves.

## DISCUSSION

We designed this investigation to evaluate the sources and consequences of perceptions of fairness in household chores among employed wives. Using data from a large-scale national survey, the study shows, as have other studies (e.g., Berk 1985; Pleck 1985), that women perform about two-thirds of all household chores. Our findings also indicate that most women (60.8%) and most men (67.5%) believe that this uneven distribution of housework is fair to both spouses. This result also is consistent with prior research. In further examining the equity points for women and men, we found that women consider doing two-thirds of the housework as fair to both spouses while men see doing one-third as reasonable. In this sense, the two genders agree that it is just for wives to do twice as much housework as husbands.

To account for women's acceptance of this unequal share of work, we proposed that marital power rather than conventional gender ideology or the division of paid work underlies women's perceptions of justice. Specifically, women's contribution to the family income and their alternatives to marriage were hypothesized to shape their assessment of fairness. Analyses support this hypothesis about options: Women who feel that they have fewer alternatives to marriage and women whose earnings would put them below the poverty threshold if divorced are more likely to view an unequal division of housework as fair. Examining the consequences of these perceptions, this study finds that women who do evaluate unequal housework as unjust experience more symptoms of depression.

These results support Hochschild's (1989) observation that women's dependence on marriage colors their perceptions of fairness. The findings are also consistent with elements of exchange theory that propose that the amount spouses have to lose or gain outside their marriage shapes their power in the relationship and their perceptions of fairness. Thus, this study underlines the importance of options as bases of power in social exchanges. The extent to which individuals are dependent on particular relationships, in turn, shapes the evaluation of justice in exchanges. The greater the dependency, the more the individual feels he or she has to do to preserve the relationship. As a consequence, unequal exchanges are accepted as fair.

There are other explanations for the association of perceived options and perceived relative fairness that also need to be considered. For example, as noted earlier, the relation between these two subjective indicators may be due to a third factor. In our judgment, the best candidate for that factor is the quality of the respondent's marriage. And, indeed, we found that marital happiness is associated with both perceived options and fairness. However, when we control for marital happiness, the association between perceived options and fairness is maintained, enhancing our confidence that this relationship is not simply a reflection of the quality of the marriage. Moreover, it is unlikely that marital happiness accounts for the relation of fairness to the more objective indicator of options, postdivorce poverty potential, since there is little reason to expect that more happily married women do not earn enough to keep them above the poverty threshold were they to divorce.

The direction of causation in this analysis is also an issue. It is possible that women's perceptions of fairness may influence their perceptions of their options. Thus, women who believe that the division of household chores is fair may also believe that their alternatives to marriage are less desirable, and women may be unhappy with the distribution of housework because they are depressed. Although these cross-sectional data do not allow us to assess the direction of causality, it is important to recall that this study builds upon qualitative work done by Hochschild (1989), where it appeared that women's views about their options influenced their assessments of the division of housework. Since that study assessed the dynamics of marital relations over an extended period of time, it supports our argument that marital options are causal. Indeed, one contribution of the present investigation is that it tests Hochschild's findings on a nationally representative sample. Moreover, the more objective indicator of options, poverty potential, is also related to perceptions of fairness. It is unlikely that reports of fairness influence reports of earnings or number of children, the bases of the poverty indicator. Neverthe-

less, only prospective studies can help resolve questions of causal direction.

In summary, our analysis illustrates how differences in the power of spouses shape the meaning and outcomes of gendered activity such as the division of housework. Because women have less power in terms of fewer alternatives, their ability to negotiate the division of household work to their advantage is compromised (Gerson and Peiss 1985). Thus, this study identifies the larger context or social conditions under which women are prompted to define inequality as fair. However, we do not understand the specific processes by which such evaluations are accomplished. It appears that those who are trapped by few alternatives need ways to maintain a sense of cognitive consistency between what they think and what they are doing (Festinger 1957). Particularly among those with little power, it is easier to change one's ideas or ideology about an arrangement than to change the structure of the arrangement itself (Gerson 1985). In her literature review, Thompson (1991) describes several possible ways in which women could maintain cognitive consistency. Different justifications may excuse an unequal division of labor, many of which involve gender-specific reasons for less housework, such as husbands' lack of training for it, lower standards, or less ability (see also Pleck 1985).

Similar processes of cognitive adjustment apparently apply to other situations of powerlessness, such as workers' subjective experiences of the labor market. For example, Blackburn and Mann (1979) describe how workers focus on the limited choices they do have in a labor market that considerably constrains their job possibilities (see also Greenberg 1989). Future research is needed to help us further understand how people accomplish such cognitive adjustments and the circumstances under which particular forms of adjustment are adopted. However, the primary focus for investigation lies in understanding the broader social conditions, such as the relations of power and dependency examined here, that cause specific cognitive processes to become operational.

General implications of our results suggest that, because of their dependence on marriage, women encounter "hard choices" with regard to the division of housework (Gerson 1985). Either they define an unequal situation as just or they see it as unjust and experience depression. Thus, for most married women this social transition or stalled revolution (Hochschild 1989; Ross et al. 1983) exacts a price. This research documents part of that price. It remains for other researchers to investigate both the consequences of the division of household labor for husbands and the costs and benefits for both spouses of situations of greater equality in both paid and unpaid work.

## APPENDIX

### Calculation of Standard Errors

When calculating SEs conventionally, one assumes that errors are uncorrelated across observations. In complex surveys, this assumption may be violated because of design features. For example, the clustering of sampling units can cause correlated error and create larger sampling variances compared to simple random selection (Kish and Frankel 1974). This correlation occurs because clusters of persons tend to be alike in numerous ways. This homogeneity within clusters may result in SEs that are too small, if they are computed without regard to the sample structure. Stratification, on the other hand, tends to result in smaller sampling variances. However, the amount of bias in a complex sample that incorporates both stratification and clustering is not predictable on the basis of the sample structure alone (Lee, Forthofer, and Lorimor 1989).

Since standard statistical packages assume a simple random sample, and hence uncorrelated observations, when computing SEs, they do not take design features of complex samples into account and may produce biased estimates of variance. The balanced repeated replication (BRR) method (Deming 1966; Kish and Frankel 1970, 1974) provides unbiased estimators of variance. The NSFH contains 52 random half-sample indicators for calculating BRR variances. These were designed to meet orthogonality requirements as specified by Plackett and Burman (1946).

In comparing variances estimated using the BRR approach with those obtained under the assumption of simple random sampling, we find that the BRR SEs are larger than those obtained by OLS, for an average design effect of approximately 1.5 for variables in the equation reported in table 5. For some of these variables, the BRR variances are more than twice as large as conventionally computed variances. For example, the design effect for couples' earnings is 2.4, indicating that when the sample structure is taken into account, the estimated variance is 2.4 times larger than the conventionally computed variance. Thus, in most cases, the value of the *t*-statistic would be increased were the sample structure not taken into account in computing SEs.

## REFERENCES

- Aiken, Leona S., and Stephen G. West. 1991. *Multiple Regression: Testing and Interpreting Interactions*. Newbury Park, Calif.: Sage.
- Barnett, Rosalind C., and Grace K. Baruch. 1987. "Mothers' Participation in Child Care: Patterns and Consequences." Pp. 91-108 in *Spouse, Parent, Worker: On Gender and Multiple Roles*, edited by Faye J. Crosby. New Haven, Conn.: Yale University Press.



- Becker, Gary S. 1981. *A Treatise on Family*. Cambridge, Mass.: Harvard University Press.
- Benin, Mary H., and Joan Agostinelli. 1988. "Husbands' and Wives' Satisfaction with the Division of Labor." *Journal of Marriage and the Family* 50:349-61.
- Berger, Joseph, Morris A. Zelditch, Bo Anderson, and Bernard P. Cohen. 1972. "Structural Aspects of Distributive Justice: A Status-Value Formulation." Pp. 119-246 in *Sociological Theories in Progress*, vol. 2. Edited by Joseph Berger, Morris Zelditch, Jr., and Bo Anderson. Boston: Houghton Mifflin.
- Berk, Sarah F. 1985. *The Gender Factory: The Apportionment of Work in American Households*. New York: Plenum.
- Bielby, Denise D., and William T. Bielby. 1988. "She Works Hard for the Money: Household Responsibilities and the Allocation of Work Effort." *American Journal of Sociology* 93:1031-59.
- Blackburn, Robert Martin, and Michael Mann. 1979. *The Working Class in the Labour Market*. Cambridge Studies in Sociology. London: Macmillan.
- Blair, Sampson Lee, and Michael P. Johnson. 1992. "Wives' Perceptions of the Fairness of the Division of Household Labor: The Intersection of Housework and Ideology." *Journal of Marriage and the Family* 54:570-81.
- Blau, Peter M. 1964. *Exchange and Power in Social Life*. New York: Wiley.
- Blood, Robert O., and Donald M. Wolfe. 1960. *Husbands and Wives*. New York: Free Press.
- Cook, Karen S., and Richard H. Emerson. 1978. "Power, Equity and Commitment in Exchange Networks." *American Sociological Review* 43:721-39.
- Crosby, Faye. 1982. *Relative Deprivation and Working Women*. New York: Oxford University Press.
- Curtis, Richard F. 1986. "Household and Family in Theory of Inequality." *American Sociological Review* 51:168-83.
- Deming, W. E. (1950) 1966. *Some Theory of Sampling*. New York: Wiley.
- England, Paula, and Barbara Stanek Kilbourne. 1990. "Markets, Marriages, and Other Mates: The Problem of Power." Pp. 163-88 in *Beyond the Marketplace: Rethinking Economy and Society*, edited by Roger Friedland and A. F. Robertson. New York: Aldine de Gruyter.
- Ferree, Myra Marx. 1991. "The Gender Division of Labor in Two-Earner Marriages." *Journal of Family Issues* 12:158-79.
- Festinger, Leon. 1957. *A Theory of Cognitive Dissonance*. Evanston, Ill.: Row, Peterson.
- Furtstenberg, Frank F., and Kathleen Mullan Harris. 1992. "The Disappearing American Father? Divorce and the Waning Significance of Biological Parenthood." Pp. 197-223 in *The Changing American Family*, edited by Scott Jay South and Stewart E. Tolnay. Boulder, Colo.: Westview.
- Gerson, Judith, and Kathy Peiss. 1985. "Boundaries, Negotiations, Consciousness: Reconceptualizing Gender Relations." *Social Problems* 32:317-33.
- Gerson, Kathleen. 1985. *Hard Choices: How Women Decide about Work, Career, and Motherhood*. Berkeley and Los Angeles: University of California Press.
- Glass, Jennifer, and Tetsushi Fujimoto. 1994. "Housework, Paid Work, and Depression among Husbands and Wives." *Journal of Health and Social Behavior* 35: 179-91.
- Greenberg, Jerald. 1989. "Cognitive Reevaluation of Outcomes in Response to Underpayment Inequity." *Academy of Management Journal* 32:174-84.
- Heer, David M. 1963. "The Measurement and Bases of Family Power: An Overview." *Marriage and Family Living* 25:133-39.
- Hill, Wayne, and John Scanzoni. 1982. "An Approach for Assessing Marital Decision-making Processes." *Journal of Marriage and the Family* 44:927-41.

- Hiller, Dana V. 1981. "Power Dependence and the Division of Family Work." *Sex Roles* 10:1003-19.
- Hochschild, Arlie, with Anne Machung. 1989. *The Second Shift: Working Parents and the Revolution at Home*. New York: Academic Press.
- Homans, George C. 1961. *Social Behavior: Its Elementary Forms*. New York: Harcourt, Brace.
- Jasso, Guillermina. 1978. "On the Justice of Earnings: A New Specification of the Justice Evaluation Function." *American Journal of Sociology* 83:1398-1419.
- Kessler, Ronald C., and James E. McRae. 1982. "The Effects of Wives' Employment on the Mental Health of Married Men and Women." *American Sociological Review* 47:216-27.
- Kish, Leslie, and Martin Richard Frankel. 1970. "Balanced Repeated Replication for Standard Errors." *Journal of the American Statistical Association* 65:1071-94.
- . 1974. "Inference from Complex Samples." *Journal of the Royal Statistical Society*, ser. B, 36:1-37.
- Krause, Neal, and Kyria A. Markides. 1985. "Employment and Well-Being in Mexican American Women." *Journal of Health and Social Behavior* 26:15-26.
- Lee, Eun Sul, Robert N. Forthofer, and Ronald J. Lorimor. 1989. *Analyzing Complex Survey Data*. Sage University Paper Series on Quantitative Applications in the Social Sciences, no. 07-071. Newbury Park, Calif.: Sage.
- Lennon, Mary Clare, Gail A. Wasserman, and Rhianon Allen. 1990. "Husbands' Involvement in Childcare and Depressive Symptoms among Mothers of Infants." *Women and Health* 17:1-23.
- Levinger, George. 1979. "A Social Exchange View on the Dissolution of Pair Relationships." Pp. 169-93 in *Social Exchange in Developing Relationships*, edited by Robert L. Burgess and Ted L. Huston. New York: Academic Press.
- Major, Brenda. 1987. "Gender, Justice, and the Psychology of Entitlement." Pp. 124-47 in *Sex and Gender*, edited by Phillip Shaver and Clyde Hendrich. Newbury Park, Calif.: Sage.
- Merton, Robert K. (1957) 1968. *Social Theory and Social Structure*. New York: Free Press.
- Mirowsky, John. 1985. "Depression and Marital Power: An Equity Model." *American Journal of Sociology* 91:557-92.
- Plackett, R. L. and P. J. Burman. 1946. "The Design of Optimum Multifactorial Experiments." *Biometrika* 33:305-25.
- Pleck, Joseph H. 1985. *Working Wives/Working Husbands*. Beverly Hills, Calif.: Sage.
- Radloff, Lenore S. 1977. "The CES-D Scale: A Self-Report Depression Scale for Research in the General Population." *Applied Psychological Measurement* 1: 385-401.
- Robinson, Joyce, and Glenna Spitze. 1992. "Whistle While You Work? The Effects of Household Task Performance on Women's and Men's Well-Being." *Social Science Quarterly* 73:844-61.
- Rodman, Hyman. 1967. "Marital Power in France, Greece, Yugoslavia, and the United States: A Cross-national Discussion." *Journal of Marriage and the Family* 29:320-24.
- Rosen, Ellen I. 1987. *Bitter Choices: Blue-Collar Women in and out of Work*. Chicago: University of Chicago Press.
- Rosenfield, Sarah. 1989. "The Effects of Women's Employment: Personal Control and Sex Differences in Mental Health." *Journal of Health and Social Behavior* 30:33-42.
- Ross, Catherine E. 1987. "The Division of Labor at Home." *Social Forces* 65:816-33.

- Ross, Catherine E., and John Mirowsky. 1984. "Components of Depressed Mood in Married Men and Women: The Center for Epidemiological Studies Depression Scale." *American Journal of Epidemiology* 119:997-1004.
- . 1988. "Child Care and Emotional Adjustment to Wives' Employment." *Journal of Health and Social Behavior* 29:127-38.
- Ross, Catherine E., John Mirowsky, and Joan Huber. 1983. "Dividing Work, Sharing Work, and In-between: Marriage Patterns and Depression." *American Sociological Review* 48:809-23.
- Safilios-Rothschild, Constantina. 1970. "A Study of Family Power Structure: A Review." *Journal of Marriage and the Family* 32:539-52.
- Staines, Graham L., and Pam L. Libby. 1986. "Men and Women in Role Relationships." Pp. 211-58 in *The Social Psychology of Female-Male Relationships: A Critical Analysis of Central Concepts*, edited by Richard D. Ashmore and Frances K. DelBoca. New York: Academic Press.
- Sweet, James, Larry Bumpass, and Vaughan Call. 1988. "The Design and Content of the National Survey of Families and Households." Working Paper NSFH-1. Madison: Center for Demography and Ecology, University of Wisconsin—Madison.
- Thibaut, John W., and Harold H. Kelley. 1959. *The Social Psychology of Groups*. New York: Wiley.
- Thompson, Linda. 1991. "Family Work: Women's Sense of Fairness." *Journal of Family Issues* 12:181-95.
- Thompson, Linda, and Alexis J. Walker. 1989. "Gender in Families: Women and Men in Marriage, Work, and Parenthood." *Journal of Marriage and the Family* 51:845-71.
- Waller, Willard. (1938) 1951. *The Family: A Dynamic Interpretation*, revised by Reuben Hill. New York: Henry Holt.
- Walster, Elaine, G. William Walster, and Ellen Berscheid. 1978. *Equity: Theory and Research*. Boston: Allyn & Bacon.
- Weber, Max. 1946. *Essays in Sociology*. Oxford: Oxford University Press.
- White, Lynn K. 1983. "Determinants of Spousal Interaction: Marital Structure or Marital Happiness." *Journal of Marriage and the Family* 45:511-19.
- Yogev, Sara. 1981. "Do Professional Women Have Egalitarian Marital Relationships?" *Journal of Marriage and the Family* 43:865-71.
- Yogev, Sara, and Jeanne Brett. 1985. "Perceptions of Division of Housework and Child Care and Marital Satisfaction." *Journal of Marriage and the Family* 47: 609-18.

## Book Reviews

*Family and Social Change: The Household as a Process in an Industrializing Community.* By Angélique Janssens. Cambridge: Cambridge University Press, 1993. Pp. xxii + 317.

Steven Ruggles  
*University of Minnesota*

Despite repeated calls for the longitudinal analysis of historical family structure, virtually no such studies have been undertaken. Instead, historians of the family ordinarily rely on census cross sections of the population, which reveal the composition of households at a single moment in their history. In this important book, Angélique Janssens provides the first sustained longitudinal investigation of patterns of extended family structure in the past. The study is based on two cohorts of married couples traced through the continuous population registers of the town of Tilburg, in the Netherlands, between 1849 and 1920.

The empirical findings of Janssens's analysis offer few surprises for historians of the family. Like much historical research on family structure, the study was designed to test the structural-functionalist hypothesis that industrialization is associated with nuclear family structure and that nuclear family structure allows greater social and geographic mobility. Like all such studies, the results indicate that Parsons was wrong. As Tilburg industrialized, the frequency of extended families increased; there was no association between nuclear family structure and social or geographic mobility; and factory workers were actually more likely to reside with kin than were family-based hand-loom weavers. Cross-sectional analyses of historical family composition have consistently yielded similar results, and by now historians of the family have universally abandoned structural-functionalist explanations. Nevertheless, Janssens's longitudinal perspective does provide important new insights. In the 1880–1920 cohort, for example, only 10% of households contained extended kin at a given moment, but a clear majority (60%) were extended at some point between the first and last observation.

Janssens's main contribution, however, is methodological. Because this is the first detailed longitudinal analysis of historical family structure, Janssens had to invent virtually all her measures and to develop procedures for handling a complex hierarchical database. For the most part, the techniques are careful and intelligent, with appropriate concern for the intervening effects of demography, migration, and missing data. In a few areas, however, the research design appears to be arbitrary and is

Permission to reprint a book review printed in this section may be obtained only from the author.

inadequately justified. For example, households remain in observation only as long as a member of the original married couple remains head of household; when the headship passes from parents to children, the household is considered to be terminated and is dropped from the analysis. There is no rationale given for this procedure and no discussion of the meaning of headship or the means by which headship was designated. Since intergenerational transfers of headship no doubt often occurred upon the marriage of a child, the analysis systematically excludes many households at the precise moment they became extended. Janssens finds that although virtually all couples were residing with children at the end of observation, these were usually unmarried children; perhaps this is because the end of observation often coincided with the marriage of a child. Moreover, this research design precludes empirical analysis of transfers of headship, a potentially revealing area of investigation.

I have a few other methodological quibbles. Janssens frequently makes much of small differences among subgroups with few cases but never provides tests of statistical significance. Some of her analyses are quite complex, as when she attempts simultaneously to evaluate household composition, social class, social mobility, geographic mobility, and household duration; such problems cry out for multivariate techniques, but Janssens provides only cross-tabulations. Given that the population registers provide a continuous record of all movements into and out of households, there is surprisingly little explicit analysis of such transitions. There are great opportunities here for individual-level hazard analysis.

In a pioneering study, such caveats are to be expected. Longitudinal analysis of family composition is clearly far more complex than cross-sectional analysis. After years of proclaiming the importance of a longitudinal approach, family historians finally have an actual longitudinal study. It deserves to be widely read and is bound to stimulate further research.

*Relations into Rhetorics: Local Elite Social Structure in Norfolk, England, 1540–1640.* By Peter S. Bearman. New Brunswick, N.J.: Rutgers University Press, 1993. Pp. xvi + 220. \$40.00.

Christopher K. Ansell  
*University of California, Berkeley*

In this study of social change in the century leading to the English Civil War (1540–1640), Peter Bearman provides us with that rare work combining theoretical insight with methodological rigor. Theoretically, Bearman identifies the structural conditions underlying the emergence of abstract religious rhetoric as a dominant form of elite mobilization. Methodologically, he demonstrates the impressive advantages of social network analysis in explaining this transformation.

Bearman's most important innovations result from his demonstration of the connection between elite social networks and the increasing politi-

cal salience of Puritanism. This connection emerged when cross-local networks of religious patronage replaced local kinship as the primary basis for elite mobilization. This new form of mobilization revolutionized English social organization. Puritanism's universalistic claims wrenched elites free from their particularistic kinship attachments—a transformation regarded by some, he points out, as the emergence of modernity. Although historians have long noted the part played by Puritanism in the English Civil War, it is novel to link this role to evolving social networks.

Bearman shows that this evolution began with a long-term breakdown of kinship as the basis for elite mobilization. Using rich data resources from the county of Norfolk, Bearman establishes the importance of kinship in the early period of this study (1540–1610) and its subsequent decline after 1610. He then shows how religious identity rooted in networks of ecclesiastical patronage emerged after 1610 to replace local kinship as the basis for elite mobilization.

Bearman interprets this evolution through several lenses. In chapter 2, for instance, Bearman establishes that kinship relations explain elite alliances better than the economic interests associated with different regional agricultural systems. The role of kinship, however, is shown to be embedded in a larger pattern of economic conflict. Regional economic blocks failed to materialize, because neighboring manors struggled for local power. These local conflicts encouraged landowners to form extra-regional alliances. But the potential for national factions to grow out of these alliances was checked by regional interests. Kinship, operating in the interstices of these conflicts, declined in importance as these cleavages became unbalanced due to concentration of landholdings and inter-regional economic convergence. Gradually, the opportunity or necessity to create national alliances gained at the expense of local kinship mobilization.

In chapter 3, Bearman looks at the structure of elite organization via the interaction between kinship networks and categorical attributes. He finds that status (e.g., major, middle, and minor gentry), occupation (e.g., squire, lawyer, merchant), and religion (e.g., orthodox Protestant, Catholic, and Puritan) decline as predictors of local kinship relations between 1540 and 1640, particularly after 1614. This decline represented the disorganization of local kinship as a basis for adjudicating the entry of persons into these categories. Bearman further demonstrates the deterioration of kinship mobilization using blockmodels (a data-reduction technique to identify blocks of structurally equivalent actors). These models suggest that the decoupling of local kinship relations from status categories was the critical juncture in this evolution.

Chaos created among the gentry by the declining relevance of local kinship motivated these local elites to look for new means of allocating status. In chapter 4, Bearman argues that the gentry first looked to the king for aid in defining and enhancing their positions vis-à-vis other local elites. But the patronage networks that developed between court and

county, although creating a basis for translocal linkage, proved unstable. Chapter 5 shows how Puritanism emerged as a framework for defining a new elite identity. Bearman elegantly demonstrates that networks of religious patronage were the critical infrastructure underpinning this abstract rhetoric. Through their control over parish jobs, local elites became the patrons of the church clergy. But, reciprocally, the movement of church rectors from parish to parish over the course of their careers created translocal bridges between their elite patrons. Blockmodels demonstrate the polarization of these networks around religious identity in the period prior to the Civil War (1610–40).

Of course, such a rich book cannot help but (indeed, should) raise thorny theoretical and empirical questions. Bearman's study raises such difficult questions about the precise relationship between social networks and the emergence of abstract rhetorics. Elites could not become mobilized around religious sentiment, he argues, until they could see ecclesiastical patronage in spiritual rather than material terms. But to what degree should we attribute this psychological transformation to the network itself? Did the network spawn the rhetoric or did the rhetoric galvanize the network? The mechanism transforming elite perceptions never becomes clear in Bearman's account. Nevertheless, Bearman clearly perceives the need to move network analysis beyond static formalism; social relations, he insists, have content as well as form. His book deserves great praise for amply demonstrating this conviction.

*When Strikes Make Sense—and Why: Lessons from Third Republic French Coal Miners.* By Samuel Cohn. New York: Plenum Press, 1993. Pp. xvi + 254. \$37.50.

Michael Wallace  
*Indiana University*

In recent years the sociological study of strikes has languished under the yoke of outdated models, unimaginative empiricism, and ahistoricism. Samuel Cohn's *When Strikes Make Sense—and Why* offers a refreshing departure by presenting a careful quantitative analysis of a question that has been largely ignored in the strike literature: When do strikes make economic sense for workers? His data are the same used by Shorter and Tilly in their seminal book, *Strikes in France* (New York: Cambridge University Press, 1974), but Cohn limits his study to French coal miners between 1890 and 1935 for reasons of data quality and historical relevance. Cohn uses a pooled, cross-sectional time-series design to analyze the economic returns of strikes in French coal-mining regions throughout these years. He embellishes the statistical models with illustrative cases from the historical archives to lend depth and texture to the analysis.

The 1890–1935 period is punctuated by a major schism in the labor movement in coal mining in 1922, which provides the basis for a natural

experiment to explore the differential effects of single and dual unionism. Prior to 1922, the miners belonged to a single major union, were highly militant, and were strike prone. After the 1922 schism, the unions branched into a militant, communist wing (*unitaires*) and a more moderate reformist wing (*confédérés*). In some localities in France after the schism, a single-union situation (either *unitaire* or *confédéré*) remained in force, but most localities experienced a competition between the communists and the moderates for the localities of the workers. The pooled, cross-sectional time-series design is ideally suited to the problem because it allows Cohn to account for variation both over time and across regions.

Cohn's analyses lead him to some provocative but convincing conclusions. First, in the preschism period, when miners were unified, miners reaped economic returns for striking frequently. Moreover, they consistently reaped larger economic returns—whether they won or lost the strike, whether the strikes were economic in nature or driven by a broader political and social agenda, and whether economic market conditions favored the workers or not—than they would have had they not struck. This pattern also prevailed in *unitaire*-dominated coal regions in the postschism period, where essentially a single-union situation continued to exist. Cohn suggests that under such single-union regimes, employers adopted a policy of accommodation, seeking to pacify militant workers with higher wages in order to maintain regularity of production. Even losing strikes demonstrated miners' willingness to disrupt production with the courage of their convictions and resulted in higher economic returns.

In the postschism period, most coal regions experienced a divided labor movement. In such competitive, dual-union situations, employers practiced a policy of steering, in which they conspicuously rewarded moderate unions for not striking and punished radical unions for striking. This policy was supported by the state, which had an interest in undermining communist unions, and had the effect of reversing the relationship between striking and economic rewards, so that workers who struck most (typically the communist *unitaires*) lost wages relative to nonstriking miners. In dual-union situations, even when workers won the strike, they lost wages relative to more moderate unions. (This result also held up in episodic dual-union situations before the schism.) In isolated postschism cases where *unitaires* and *confédérés* attempted to form a united front, both unions were punished, which usually led to a renewed strategy of moderation by the *confédérés*. The ultimate lesson of the postschism, dual-union era was that the union that strikes least loses least.

Cohn cites several important limitations to his findings. First, even in the best of times, the possible gains of class conflict were constrained by market forces. Employers could not pay such a high wage premium that they were rendered uncompetitive in their local market. Second, to be effective, strikes had to be short in duration; otherwise, the lost working time of long strikes negated any wage gains that were won as a result of the strike.

Readers may have several legitimate concerns about Cohn's analysis.



First, some will contend that the case of early 20th-century French miners has little relevance for workers in other times, other industries, or other historical circumstances. But Cohn does a credible job of defending the choice of French miners, and, ultimately, his results speak for themselves as important findings that should be pursued in other settings by other researchers. Second, Cohn's analysis focuses, myopically some might argue, on economic rewards of class conflict to the exclusion of larger social and political concerns, which often preoccupy workers in early industrial settings. It is important to know that conflicts over the social and political agendas of workers sometimes improved workers' economic well-being but just as important to understand the consequences, if any, these conflicts had for social change. Finally, as with any quantitative analysis of this type, the devil is in the details. One could question several of Cohn's choices regarding measurement, model specification, and other methodological issues. Cohn's use of residual wages, which are wage rates net of exogenous market forces, as the key dependent variable is particularly debatable.

On balance, however, these concerns do not detract from what is a conscientious and welcome effort to redirect the orientation of strike research. Cohn's argument about the relationship between strikes and economic rewards is convincing and should spark an effort to explore the consequences of labor conflict in other settings.

*Social Change and Labor Unrest in Brazil since 1945.* By Salvador A. M. Sandoval. Boulder, Colo.: Westview Press, 1993. Pp. xv+245. \$37.50 (paper).

Gay W. Seidman

*University of Wisconsin—Madison*

Since the early 1980s, writers in what could loosely be characterized as the dependency tradition have generally acknowledged that internal social forces as well as international dynamics shape Third World development trajectories. With that acknowledgment has come renewed interest in what shapes those internal forces—including, increasingly, interest in what shapes labor movements and how those movements might affect development strategies.

In these debates, Brazil merits special attention. Not only is it one of the southern hemisphere's most industrialized countries, but its labor movement has emerged as a major player in national politics. In 1994 one of the leading presidential contenders, popularly known as "Lula," came out of the labor unions, and he continues to draw his strongest support from working-class areas.

Salvador Sandoval explores the changing patterns of union behavior, using national strike data to show how frequency, duration, and intensity changed over time. Following an approach elaborated by Charles Tilly and his colleagues, Sandoval argues that the nature of worker organiza-

tion and behavior changed as industrialization created new groups of workers who worked in large factories and lived in new urban communities. Changing patterns of economic growth, employment, and residence shaped the possibilities for worker mobilization, altering the dynamics of militant unionism.

Sandoval's major contribution lies in his demonstration of the extent to which Brazilian unions behave as political actors, mobilizing workers as a means of intervening in national politics. His data offer little information about workers' changing political attitudes or choices, but at the aggregate level Sandoval shows that the timing of strikes is clearly more related to political events than immediate economic crises.

Sandoval provides the first overview in English of Brazilian unionism under the recent civilian government, showing how contemporary strike patterns—especially the large general strikes that marked the late 1980s—reflect both earlier union dynamics and political strategies. He underscores what is perhaps the most interesting trend in contemporary Brazilian unionism: During the late 1980s, middle-class unionism among public-sector workers, including teachers, health workers, and state civil servants, has become dominant. Rather than emphasizing the effects of the fiscal crisis of the Brazilian state on its salaried state employees, Sandoval interprets this trend as resulting from earlier growth in the public sector—an argument that is consistent with his earlier explanation for the rise of industrial unionism but which leaves room for further research into white-collar worker motives and consciousness.

For most of the periods covered in the book, Sandoval compiled strike data from a single national newspaper, the *Folha de São Paulo*; for the 1980s this material is supplemented by data from an interunion statistical service and from the Ministry of Labor. Brazil's regional centrism and intermittent censorship make newspaper reports extremely unreliable, and any reader must be permitted some skepticism about Sandoval's quantitative findings. However, Tilly and his colleagues faced similar challenges when compiling data about European strikes from newspaper reports, yet, like Sandoval, they have consistently found that where supplementary evidence exists the general shape of aggregate data remains the same. It is unlikely that a more complete data source would alter Sandoval's findings about sectoral changes in strike behavior or the timing of major strikes.

Paradoxically, given the overall nature of the study, some of the book's most interesting material is presented in the section on the one historical period when quantitative data on strikes were completely unavailable. Censorship was far stricter following the 1964 coup than at any other time, and Sandoval wisely chose to abandon the quantitative effort for this period. Here, he offers a glimpse into current Brazilian labor historiography, discussing the illegal strikes, organizational trends, and union strategies that shaped Brazil's "new unionism." The excellent Brazilian research on this period is only gradually filtering into English, and Sandoval's chapter on the repressive years provides an excellent introduction.

Although Sandoval's conclusions are unlikely to surprise observers of Brazilian unionism, the study's attempt to collate aggregate national figures and to show how patterns change over time is certainly useful, especially because the data are situated within their historical context by a careful and knowledgeable analyst. Thus, although Sandoval does not directly address theoretical discussions about Latin American unionism, his work will provide new grist for the ongoing debate about the dynamics shaping the strategies through which workers and unions seek to insert their presence into the national political arena.

*Political Mobilization and Social Change: The Dutch Case in Comparative Perspective.* By Hanspeter Kriesi. Brookfield, Vt.: Avebury, 1993. Pp. xviii + 292.

Julia P. Adams  
*University of Michigan*

Hanspeter Kriesi's book begins with an apparent paradox: While the last 40 years have seen dramatic social upheavals in Western Europe, including massive social movements, this period has also been a time of basic political stability and continuity. Kriesi sets out to elucidate this paradox, particularly as it appears in the Netherlands. His study also seeks to connect individual responses to societal processes of social change and to forecast the potential patterns of Dutch political mobilization. *Political Mobilization and Social Change* succeeds in some, but not all, of its ambitious goals.

Several sociocultural changes have recast the ground on which Dutch politics is conducted. First, the postwar division of Dutch society into confessional camps or pillars (*zuilen*) has been eroded by a far-reaching secularization, popularly known as "depillarization." Second, the industrial working class has declined in numbers and clout, and new middle-class strata—including professionals and technocrats—have become increasingly prominent. Third, the "educational revolution" has diffused higher education throughout the population to an unprecedented degree. (There are of course other changes, such as shifting gender and family arrangements and attitudes, which are important features of postwar Dutch development, but they are not central to Kriesi's later cross-sectional analysis.) All these trends inform and interact with what Kriesi calls changing "value orientations" organized around class identification, religious affiliation, and "post-materialism," a concept borrowed from Ronald Inglehart's work (*Culture Shifts in Advanced Society* [Princeton, N.J.: Princeton University Press, 1990]).

The heart of the book consists of four chapters dealing with political mobilization by parties, unions, and social movements and political participation that crosses these three institutional arenas. Based on data drawn from his 1987 representative sample of 1,848 Dutch respondents

15 years old and older, Kriesi sees broadly similar causal patterns linking the independent variables (including prior involvement in politics, personal network ties, values, and sociodemographic characteristics such as sex, education level, and other variables derived from the long-run social changes Kriesi highlights) to mobilization potentials. In all three sites, for instance, political values have a greater motivating role overall than do sociodemographic determinants, and past mobilization is the best predictor of respondents' expressed readiness for future mobilization, which is actually what the study's so-called mobilization potential variable is capturing. In spite of postwar social upheaval, Kriesi argues, the study bears out striking continuities in the ideological cleavages underlying politics in all arenas and in the capacity of parties and other institutional actors to adapt to shifting conditions and new pools of recruits.

There are also empirical patterns specific to each institutional arena, and the book presents these in detail, linking its findings to recent social science debates. For example, Kriesi shows that new social movements are particularly attractive to Dutch professionals. Basing his claims on Erik Olin Wright's conceptual categories (*Classes* [London: Verso, 1985]), and in declared opposition to some of Andrew Abbott's arguments (*The System of Professions* [Chicago: University of Chicago Press, 1988]), Kriesi argues that professionals have split off from and are at odds with other new middle-class segments, such as managers, and that these objective shifts in the class structure undergird distinctive political stances.

One of the virtues of *Political Mobilization and Social Change* is that it presents valuable empirical analyses of Dutch political patterns and carefully parses the multiple factors that social scientists have proffered as candidates for causal claims. The book also attempts to conceptualize key variables at various levels of abstraction, so that "Dutch exceptionalism" can be situated with respect to future cross-national comparisons.

A flaw in the book is its modernization-theoretic bent. At times the author infers developmental continuities where none may exist and projects future secular trends on that basis. Two examples will suffice. First, Kriesi persistently infers a simple trend toward increasing emancipation for women, with occasional lags that are by definition inexplicable, instead of analyzing gender arrangements and ideologies parallel to the more nuanced way in which class is treated here. This problem runs like a thread throughout the text. Second, values are often assumed to be univocally "modern" or "backward" in ways that are never theoretically justified. What is emphatically lost here is the sense of cultural complexity, even contradiction, that Simon Schama (*Embarrassment of Riches* [New York: Knopf, 1987]) signaled in his treatise on the culture of the Dutch Golden Age. Schama, who seemed both fascinated and puzzled, wrote that "it is the peculiar genius of the Dutch to seem, at the same time, familiar and incomprehensible" (p. 3). This paradox is lost, since modernization theory, paired with large-scale survey methods, simply obviates complex, textured analyses of belief systems. Nevertheless *Political Mobilization and Social Change* does succeed in rendering

Dutch political life more comprehensible, and it illuminates the surprising continuity of patterns of political mobilization in a period of epochal social change.

*The Development of the Dutch Welfare State: From Workers' Insurance to Universal Entitlement.* By Robert H. Cox. Pittsburgh: University of Pittsburgh Press, 1993. Pp. xv + 257. \$59.95.

Joya Misra  
Emory University

The Netherlands presents a unique case of welfare-state development. The Dutch welfare state is one of the most extensive, yet it developed significantly later than in most other European nations and has been greatly shaped by religious political forces. Cox argues that the anomalies that the Dutch case poses to traditional conceptions of welfare-state development can notably improve theorizing in this area. His book examines the historical evolution of the Dutch corporatist state, mostly unsuccessful post-World War II initiatives toward building universal welfare policies, the rapid growth of the Dutch welfare state during the 1960s and early 1970s, and the move toward retrenchment since the mid-1970s economic stagnation.

Cox argues that he is "not proposing a radically new interpretation of the welfare state," but instead articulating a way of "conceptualizing it that has broader comparative utility" (p. 28). He suggests that most welfare-state theorizing has not been abstract enough, focusing on "contextual facts" (such as the importance of left parties in many European nations' welfare-state construction) rather than "theoretical considerations." According to Cox, three factors have been overlooked by scholars who explain the development of the welfare state: policy borrowing, political mobilization, and the structure of state institutions. Cox argues that the similarity between welfare states can be explained in part by the ways in which policy initiators borrowed ideas from programs developed in other nations. Two processes cause divergences among types of welfare states. First, different dynamics of political mobilization have influenced the policy preferences of societal organizations. Second, the structure of state organizations, specifically the corporatist state's different structural relationship to society, has influenced how policy-making has occurred.

Attention is confined to three programs that illustrate the major factors in the development of the Dutch welfare system: retirement pensions, public assistance, and disability. Cox argues that these programs demonstrate all of the important characteristics of growth in the Dutch welfare state and, in fact, that "adoptions of pension and disability, and other social insurance programs at the turn of the century created the institutions of Dutch corporatism" (p. 24). These programs were also the most controversial during postwar welfare reform, as different factions fought

to extend benefits universally or maintain their exclusivity to the working population.

After discussing his theoretical framework, Cox describes the evolution of the four distinct pillars of the Dutch corporatist state: Catholics, Protestants, liberals, and socialists. The Dutch state that emerged was a product of these four competing parties (and their ideologies), as these groups negotiated the degree of state control over welfare programs. The late development of the Dutch welfare state is explained as significantly a product of the power of corporatist bodies. Religious forces within the corporatist institutions blocked reform, in part to maintain the "privileged positions" that religious charities occupied and to maintain the power of the religious parties against the socialist initiative. Religious political forces again played a major role in the rapid growth of the Dutch welfare state during the 1960s and early 1970s, as declining electoral margins prompted the Catholic party to support generous welfare benefits in order to appeal to potential supporters. Although religious parties had initially fought labor's attempts for universal welfare programs, they later shifted their orientation due to electoral politics. Finally, the corporatist nature of the Dutch state again greatly affected the ways in which retrenchment has been handled, as the Dutch government attempts to increase the state's autonomy vis-à-vis the corporatist interests.

The major arguments of the book—that welfare policies have often been borrowed from similar nations, that the dynamics of policy debate may have more to do with political strategies than ideological constraints, and that the institutional context in which policy-making occurs (e.g., corporatism) affects the policies that develop—are strongly supported by Cox's analysis of the Dutch case. Additionally, the focus on the impact of religious forces in welfare policy-making and welfare effort is an important addition to the welfare-state literature.

Where this work falls short is in convincing the reader that Cox has identified a unique case. While explicitly focused on the development of the Dutch welfare state, this work implicitly contrasts the Dutch state with other nations without ever providing a systematic comparison. This book walks a fine line between providing an in-depth analysis of the Dutch case and developing a more general theory. This work would be more compelling had it more explicitly shown how the theory developed through the case history can be applied usefully to other cases of welfare-state development.

*Old-Age Security in Comparative Perspective.* By John B. Williamson and Fred C. Pampel. New York: Oxford University Press, 1993. Pp. xii + 304. \$49.95.

Tang Nah Ng and Alexander Hicks  
*Emory University*

In this important book, John Williamson and Fred Pampel trace the development of old-age security programs in industrialized and industrializing nations using both comparative historical and quantitative methodologies. Moreover, they develop a common framework for the study of the origins of welfare policies that encompasses much of the industrialism, social democratic, neo-Marxist, neopluralist, and statist perspectives on the welfare state.

In chapters 2–5, Williamson and Pampel study the origins of pensions in four early industrializers, each representative of a type of public pension system and each homologous with a theoretical account of the origins of public pensions: Germany (“conservative,” statist), Sweden (social democratic in type and origins), the United Kingdom (“radical,” neopluralist), and the United States (neopluralist). In chapters 6–8, Williamson and Pampel study Brazil, India, and Nigeria to redress the lack of systematic Third World comparisons, indeed, even of Third World case studies, in the welfare-state literature, a serious obstacle to the development of global theory. Brazil, with its strong state structures and pension innovations preceding industrialization, provides a striking case of state-led policy-making, while India and Nigeria illustrate the importance of contributory “provident funds” in ethnically fragmented states.

Williamson and Pampel investigate interactions among dimensions of state structures (democratic corporatism and level of democracy) and various hypothesized causes of pension policy. Generalized least squares multiple regression analyses of pooled data on 18 advanced industrialized nations over 22 years (1959–80) yield a wealth of findings about pension effort (pension spending as a share of GDP) and relative pension (pension expenditure per aged person as a ratio to national product per capita). Evidence for class effects is mixed. In both corporatist and pluralist political-institutional contexts, union density does not have any significant effects. However, positive effects of rightist parties are stronger in corporatist structures. The latter finding is interpreted as meaning that bourgeois parties support middle-class pension programs where labor has a more important role in labor negotiation. There is strong evidence that where corporatism is weak a high share of the elderly in national populations exhibits a dual impact, both relatively automatic activations of extant entitlement statutes and political influence (lobbying and electoral pressure by entitled pensioners who are likely to be middle class). For Third World nations (32 nations in 1960, 1965, 1970, 1975, and 1980), regression results show a predominance of effects from social insurance program experience and share of the elderly. Effects of both social

insurance program experience and of the elderly increase with levels of democracy. The authors conclude from both qualitative and quantitative analyses that the social democratic perspective is "of limited utility except . . . in nations with well-developed democratic corporatist structures," while the other four theories all prove "useful" in some context (p. 227).

Despite its unrivaled range of methods and cases, the book's drive toward closure on important questions perhaps raises as many questions as it answers. For the study of advanced industrialized nations, some of these questions are: Would neopluralist conclusions loom so large if Labour's role in the Lloyd George governments of 1908–11 and Labour's leadership of 1945–50 Great Britain had been given the attention accorded middle-class lobbyists and administrators? Why do the authors provide no explicit second take on their anomalous 1960–80 finding that Right governments are more conducive to high pension effort than Left ones? (Perhaps this anomaly warrants period-specific analyses: e.g., Right governments, laggards in the 1960s, may have been catching up in the 1970s, while Left-Right differences may have been accentuated following the New Right transformation of conservative party programs circa 1979–81.) On a more general note, how much of a common framework can a merely developmental and statist ordering of theoretically diverse explanatory principles provide?

As regards industrializing nations, some questions that beg to be asked are these: What of institutional isomorphism (in both Keynesian and neoliberal world polities) as a factor in Third World pension policy? Does not a "breakthrough towards a truly global view of social policy" (praise on book jacket) require inquiry into how different Third World nations and advanced industrialized nations have been at similar stages of development? (The importance of this issue is reflected in the recurring themes of rival international unions, influences of international welfare agencies, and loose coupling of legislation and actual coverage.) More specifically, why do levels of democratization shift different "aged" parameters differently with respect to pension effort and relative pension in Third World nations (p. 140, table 9-5)?

Nevertheless, the book dramatizes the need for fine-grained induction and theoretical eclecticism in the current context, whether historicist understanding or general theoretical explanation is sought. Its ample contributions to both goals establish the work as, at minimum, the "important if incomplete step" the authors themselves claim it to be. Indeed, the book puts an inexorable claim on our attention as teachers and researchers of comparative political economy, political sociology, and the welfare state.



*The Politics of Pensions: A Comparative Analysis of Britain, Canada, and the United States, 1880–1940.* By Ann Shola Orloff. Madison: University of Wisconsin Press, 1993. Pp. xii + 381. \$60.00 (cloth); \$24.95 (paper).

Jens Alber  
*University of Konstanz*

Orloff's book represents an interesting attempt to analyze factors leading to commonalities and variations in pension policies in Britain, Canada, and the United States. The author chose these three countries because she "wanted to make sense of the U.S. case" and also to provide controls for various background variables in order to better identify "the causal contribution of state and political factors in producing policy outcomes" (p. 33). The book thus follows a "most similar nations" strategy, where the impact of several variables may be considered to be held constant.

Orloff is interested in two major aspects of policy outcomes: the timing and the form of the programs enacted. Both dimensions represent complex sets of subdimensions rather than easily measured variables. Thus, the adoption of a modern pension program that broke with the poor-law tradition often occurred in a stepwise fashion. Britain introduced national pension laws in two major steps (1908 and 1925), Canada's 1927 federal pension law was gradually implemented in the various provinces up to 1936, and the United States successively extended the Civil War pensions before adopting a pension insurance plan in 1935. Hence it is difficult to measure the timing of modern pension laws in a straightforward, unequivocal manner. As the author aptly points out, the form of pension programs is an even more complex variable with several crucial subdimensions: coverage and eligibility criteria, financing rules, benefit regulations, and administrative arrangements. Given this high complexity, it is difficult to specify the dependent variables precisely, and the reader occasionally wonders what exactly the author is attempting to explain.

Notwithstanding these difficulties, there are at least two basic questions to whose analysis the book makes a major contribution: (1) What do countries that belong to a certain type of welfare state regime have in common; what makes them develop similar policy regimes? (2) Why are there variations within a given regime type? For example, why did Britain break with the poor-law tradition earlier and more profoundly than Canada or the United States?

With respect to the first problem, Orloff shows that liberal policy regimes share distinctive sets of experiences of state formation. Since they developed in a more protected geopolitical environment than the countries of continental Europe, there was less pressure to develop a strong state apparatus, while the domestic social structure with a commercialized economy helped to delay the bureaucratic transformation of government administration. The comparatively late civil service reforms meant

that state capacities to administer modern social programs were less developed than elsewhere.

In her attempt to explain the differences between the three countries, Orloff first refers to some common aspects such as the demands of the working class and the demographic changes that, together with the processes of industrialization and urbanization, made for a growing number of elderly people who needed income support. One major point of the book is, however, that socioeconomic processes do not automatically translate into political challenges and policy responses, but that the pressure from political problems is mediated by the prevailing policy institutions. Political elites thus react to problems in previous policies rather than to unmediated processes of social change.

The shift to modern pension policies was structured by two key factors: the degree of policy crisis or negative policy feedback and the emergence of a cross-class coalition of workers, farmers, and middle classes under the leadership of political reform elites. The willingness of middle-class reformers to coalesce with lower-class pressure for reform hinged upon the degree of negative policy feedback from the traditional poor-law institutions and the structure of the state bureaucracy. In Britain, the middle class supported reforms, because there was a strong negative policy feedback from the centralized system of poor relief and because the earlier civil service reform promoted trust in the professional capacities of the bureaucracy. The Canadian elites were uninterested in social policy reform up to the First World War due to the absence of a poor law perceived to be in crisis and due to the underdeveloped capacity of the state in a still patronage-ridden civil service. The American middle class opposed social policy reforms, because the Civil War pensions and the decentralized system of poverty relief entailed a weaker negative policy feedback than in Britain, while the spoils system led to distrust in the federal bureaucracy and to the retarded development of a professional civil service apt to administer social reforms.

The combination of historical detail and analytical insight makes Orloff's book recommended reading for all students of comparative welfare state development. With her focus on causal analysis, the author helps us to better understand the logic of the development of various policy regimes. However, the book also shares some of the problems of the new state-centered approach of which it forms a part. Because variables are usually argued rather than measured in reproducible ways, the reader is constrained to rather blindly follow the author's judgment. Moreover, since the dependent variables of the analysis are not specified systematically, the linkage between explanatory and dependent variables is not always made explicit. The reader actually learns more about background factors that shape pension policies than about the politics of pensions that lead to specific forms of programs. Like other members of the institutional or state-centered approach, Orloff seems to be less interested in measuring variables and in testing hypotheses than in interpreting history. Maybe the profession puts too little premium on comparative de-

scriptions that start with a systematic mapping of cross-country variations. However, even those who do advocate a more systematic measurement of variables will probably agree that Orloff's book is of vital interest to anybody interested in comparative welfare state research that combines systematic description with causal analysis.

*The State and the Poor: Public Policy and Political Development in India and the United States.* By John Echeverri-Gent. Berkeley and Los Angeles: University of California Press, 1993. Pp. xi+312. \$38.00.

Patrick Heller

*University of California, Berkeley*

The problems associated with privileging either the state or society in understanding the effectiveness of public policy have underscored recent calls for developing state-society perspectives. But in breaking with what were, for all their shortcomings, well-established analytical traditions, state-society models have become a catch-all, mired in amorphous theoretical precepts and lacking clearly defined analytical boundaries. Exceptions to this tendency have been studies that closely examine the institutional configurations that tie state agencies to social actors. This framework has for the most part been applied to the question of economic development, exploring the links between state planners and entrepreneurial elites. John Echeverri-Gent's book breaks new ground in this growing field, not only because he delves into the intricacies of "policy implementation, as a tangible site of exchanges between state and society" (p. 4), but also because he shifts the focus to the rural poor and poverty alleviation, a much greater test of state capacity.

Echeverri-Gent's elaborate theoretical blueprint consists of integrating organizational theory with macrocomparative analysis. Within the organizational tradition, he defines three perspectives (rational process, conflictual process, and organizational environment) that are treated comprehensively, if somewhat dryly, in a theoretical chapter. The three perspectives are then methodically deployed in examining poverty alleviation schemes in the United States and India. The first case study addresses rural poverty programs implemented by the Resettlement Administration (RA) and later the Farm Security Administration (FSA) during the American New Deal. The second and third cases are both situated in India and examine rural employment schemes: the Employment Guarantee Scheme in the Congress Party-ruled state of Maharashtra and the National Rural Employment Programme in the Communist Party-ruled state of West Bengal.

Because Echeverri-Gent remains faithful to his objective of avoiding the traps of state-centered explanations and societal reductionism, his findings defy neat and tidy generalizations. In all three cases, internal state dynamics (within and between agencies) interact with the political

environment (constellations and patterns of interest aggregation) in shaping implementation success. In the United States, the RA and FSA programs proved to be highly effective in addressing rural poverty but were nonetheless phased out in the mid-1940s. In a salutary check to state-centered theories, Echeverri-Gent demonstrates that agency autonomy and administrative capacity crumbled in the face of elite opposition, specifically the reemergence of a powerful commercial farmers bloc in the postwar period and congressional opposition to the New Deal. Agency autonomy proved to be a liability: precisely because the FSA operated outside the political arena, it lacked the political linkages (both to powerbrokers and to its own, poorly organized client constituency) needed to resist attacks from vested interests.

In the case of Maharashtra, despite fortuitous political conditions, conflicts between implementing agencies have undermined the effectiveness of EGS. Reliance on the expertise of technical agencies in developing and monitoring public works created an insulated, corrupt, and unresponsive bureaucracy—the classic problem of an overly centralized bureaucracy with little or no accountability. But because of its universal entitlement to work, EGS has nonetheless provided incentives and new avenues for mobilizing the rural poor. The case of West Bengal provides an interesting contrast. In order to elicit greater local participation and responsiveness of implementing officials, the Communist Party devolved responsibility for NREP to village-level governments (the *Gram Panchayats*). While this did indeed serve to integrate local elected officials into the implementation and monitoring process, it also translated the scarce resources of NREP into an instrument of political patronage, thus in effect making the poor dependent on the Communist Party.

The most intriguing aspect of this book is its carefully documented challenge to the conventional wisdom that uncritically equates state autonomy with enhanced capacity. Drawing on Peter Evans's notion of "embedded autonomy" ("The State as Problem and Solution," in *Politics of Economic Adjustment*, edited by Stephen Haggard and Robert R. Kaufman [Princeton, N.J.: Princeton University Press, 1992]), Echeverri argues that politics and bureaucracy can be positively intertwined and concludes that "state-society relations need not be viewed as zero-sum games where strong societies mean weak states" (p. 183).

The long-term success of poverty alleviation thus depends on more than internal organizational features. Implementing agencies must successfully mobilize their constituents, or more broadly, the state must be politically linked to the rural poor. On this important point Echeverri-Gent's analysis unfortunately falls short of its promise. In his determination to focus on the specificity of state-society relations, that is, on organizational-political linkages, Echeverri sidelines the question of social structure. While analytically this may be appropriate for evaluating specific policy outcomes within a given conjuncture, it is inadequate to assessing the larger preconditions required of sustainable and effective poverty alleviation, particularly in a country such as India (a point the author

acknowledges but relegates to his concluding remarks). Thus, while EGS may have fostered pluralistic mobilization in Maharashtra and political dependency in West Bengal, the Communists' mass base and ability to circumvent the power of rural elites has created a balance of power far more favorable to the rural poor than the elite-dominated politics of the Congress Party in Maharashtra.

Despite this shortcoming, Echeverri-Gent's judicious integration of organizational theory and comparative sociology provides new and insightful tools for exploring the complex dynamics of state-society relations. *The State and the Poor* is an analytically bold and empirically rich contribution to our understanding of state capacity.

*Covering the Body: The Kennedy Assassination, the Media, and the Shaping of Collective Memory.* By Barbie Zelizer. Chicago: University of Chicago Press, 1992. Pp. 299. \$29.95.

Daniel C. Hallin  
*University of California, San Diego*

"Like no other events before, the occurrences of November 22–25, 1963, belonged to journalism, and specifically to the national organs of journalism" (p. 87). So said the *Columbia Journalism Review*, assessing the meaning of Kennedy's assassination for the profession of journalism. *Covering the Body* is about how journalism took possession of this historical event. The book presents two major lines of argument. The first concerns journalistic authority: journalists, in retelling the assassination story, have positioned themselves as the primary keepers of its memory. The second concerns the way assassination retellings served to define professional standards, to outline through heroic tales certain notions about what it is to be a "great" journalist. Zelizer develops these arguments through close readings of a wide range of retellings of the assassination story, from the initial news reporting to articles in professional journals, journalists' memoirs, and retrospective documentaries.

The theoretical framework draws from Durkheim, Giddens, and Holbachs, among others, and centers around the notion of "collective memory." The articulation of this framework is perhaps the book's weakest point. Zelizer might have had a fuller, clearer discussion of what "authority" means and how the particular conception she employs relates to other theoretical perspectives. One chapter deals with the construction of the journalist as "celebrity," a concept that winds up being treated as more or less interchangeable with authority, with little explicit discussion of the relation between the two. The main argument Zelizer wants to make about authority is that narrative is crucial to its construction. She wants to make this same point about journalism's development as a community: "This study," as she puts it, "considers the journalistic community not only as a profession, following sociological models, but

also as an interpretive community that uses narratives and collective memories to keep itself together" (p. 9). And the book is certainly convincing on the centrality of narrative, even if the wider theoretical framework is not fully developed.

The more concrete discussion of assassination retellings, meanwhile, is rich, insightful, and often fascinating, and it is certainly the most significant work to date on one of the major episodes that has shaped the social role of American journalism. In many ways, as Zelizer points out, it is ironic that journalists came to "own" the Kennedy assassination. It was, after all, an event they missed: none of them actually witnessed the assassination itself. This professional failure, moreover, was by no means the only one: those who witnessed Johnson's swearing-in neglected to write down who else was present, and the crush of journalists was blamed by many for facilitating Jack Ruby's assassination of Lee Harvey Oswald.

Nevertheless, from the very earliest moments, journalists began a process of reconstructing events in a way that reinforced their authority as narrators. Accounts of the assassination, for instance, centered around the hospital, where authoritative information was available and journalistic professionalism could therefore be properly displayed, rather than the assassination scene itself, where journalists were not even as well positioned as lay eyewitnesses. Stills from the "Zapruder film" were presented by *Life* magazine, without mentioning the amateur from which it was purchased, as a "remarkable and exclusive series of pictures" seen "for the first time" (p. 68). And later retellings of the assassination emphasized the journalists' presence at the event as evidence of their unique right to tell the story, often replaying bits of their original reporting. This memory was highly selective, emphasizing the role of those reporters who rose to the top of their news organizations.

One of Zelizer's most interesting arguments concerns the ways in which news reporting, and particularly television coverage, comes to be seen not as a representation of events but, in the words of an NBC 25th-anniversary broadcast, as "history exactly as it happened . . . and happened to you. As you saw it then" (p. 184). The existence of these television tapes, she believes, means that the assassination has remained the possession of journalists rather than being handed to the historians. The Kennedy assassination is one of the key events in forming the self-conception and public understanding of the news media, and Zelizer has established herself as the privileged reteller of that story within the media studies community.

*Fashion, Culture, and Identity.* By Fred Davis. Chicago: University of Chicago Press, 1992. Pp. xi + 226. \$24.95.

Valerie Steele

*Fashion Institute of Technology*

What do our clothes say about us? How does our choice of clothing communicate messages about our identity? Why does fashion change? These are some of the big questions Fred Davis poses and to which he gives intelligent and thoughtful answers. In place of the cliché that fashion is a language, Davis offers a subtle analysis of the ways in which the meaning of clothing is constructed. As he demonstrates, what is signified by a particular style is different for different groups in different contexts at different times.

"Take, for example, the rather masculine, almost military styles that were fashionable among some women in the mid-1980s: exaggerated shoulder widths tapering conelike to hems slightly above the knee. It is, I believe, difficult even now to infer quite what this look meant to the broad mass of fashion consumers." The dominant interpretation has associated the broad shoulders with "masculine authority." But people perceived the look in various ways: When it first appeared, the fashion cognoscenti saw it as "a kind of gender-inverted parody of military bearing." This style was hard for most women to understand or appreciate: Socialites fretted that it was too severe and unfeminine, and housewives saw it as ugly and irrelevant. But many career women liked the style, "because it seemed to distance them from unwelcome stereotypical inferences of feminine powerlessness and subservience." On the other hand, if factory workers were aware of the style at all, "it may have been devoid of meaning for them altogether, although nonmeaning in something that for others is pregnant with meaning is itself a kind of meaning in absentia" (pp. 9-10).

This example demonstrates, in concrete terms, how Davis deploys a sophisticated and nuanced interpretation of style. It also shows the clarity, and even elegance, of Davis's writing. Although he is cognizant of the latest theories, he seldom falls into the jargon-ridden prose typical of much social science. Davis draws on a wide range of sources, from Baudrillard to the ephemera of popular fashion reportage, and his use of quotations is consistently enlightening. Although there are not many illustrations, those that he uses are fresh and unexpected.

Davis is equally astute in his analysis of the reasons why fashion changes. Change occurs not because of capitalist conspiracies or psychological boredom, argues Davis, but rather because our social identities change. Identity ambiguity (multiple meanings) and ambivalence (contradictory and oscillating attitudes) are the key concepts in Davis's important theory "that collective identity ambivalence is an important cultural source of . . . changes in . . . fashion" (p. 21).

The ambivalences of gender have been especially important in recent

years, as women have struggled to achieve equality with men. In the 1970s "unisex" and "androgyny" became fashion buzz words, but as Davis shows, the traffic in cross-gender styles was mostly one way: "Men have flirted only sporadically, and then rather timorously, with the possibility of adopting clothing . . . in any way suggestive of femininity" (p. 34). Although pop stars have toyed with feminine styles, most men have steered clear, even abandoning formerly masculine styles once they have been adopted by women. By contrast, women have ransacked the male wardrobe. The "Annie Hall look," for example, drew on male jackets, trousers, and hats; Yves Saint Laurent designed female versions of the tuxedo; and Giorgio Armani created stylish business suits for women. Although many women assume that this proves the functional superiority of men's clothing, Davis points out that the cultural symbolism of "male = authority" is also directly relevant. On a symbolic level, pants equal power (pp. 44–45, 48).

Davis also analyzes the ambivalences of status display in clothing, showing how the classic "trickle-down" model of fashion change (whereby social elites were imitated by those further down the social scale) has been dramatically revised in recent years. Fashion today often begins on the street, before it is picked up by high-fashion designers. Davis analyzes, for example, the appeal of blue jeans, touching on sub-themes such as the differences between elite and populist status markers and the appeal of (what appears to be) conspicuous poverty.

His analysis of erotic ambivalence is a model of clarity and good sense in an area too often marked by careless thinking. The notorious "theory of the shifting erogenous zone" is studied carefully and its logical errors exposed. In its place, Davis shows how "the dialectic of the erotic and the chaste" plays itself out differently according to the particular social and cultural context (pp. 80–99). Unlike many sociologists, Davis draws on both historical and anthropological sources and concepts to provide a more richly textured picture of contemporary style.

Fred Davis's recent and untimely death saddened everyone who knew him. His book *Fashion, Culture, and Identity* is a worthy memorial to an original and insightful thinker and should prove popular among sociologists, fashion professionals, and students. The book is dedicated: "In memory of Herbert Blumer (1900–1987) from whom I took courage to treat seriously topics thought frivolous by American sociology." Similarly, Davis's honest and important work will continue to be an inspiration to future scholars.



*One Nation under God: Religion in Contemporary American Society.* By Barry A. Kosmin and Seymour P. Lachman. New York: Harmony Books, 1993. Pp. 301. \$25.00.

Patricia M. Y. Chang  
*Hartford Seminary*

*One Nation under God* interprets the findings of the National Survey of Religious Identification (NSRI) conducted by the City University of New York in 1990. The bulk of the survey consists of a single question, namely, "What is your religion?" The survey is notable for the authors' claim that it is the "largest and most comprehensive poll ever on religious loyalties, and the most accurate and detailed as to geographical distribution" (p. 2). Its claims to comprehensiveness lie entirely with the survey's size. The survey included 113,000 households, because a commercial market research firm was paid to include the question as part of a changing telephone market survey administered biweekly to 1,000 households over a period of 52 weeks, or 113 rounds, from April 1989 to April 1990. The survey response rate after four attempts was 50%, and the refusal rate for the religious question was 2.3%. Responses are correlated with demographic information such as respondents' age, sex, race, marital status, education, and political party affiliation along with household data on income, family size, and geographical location. In chapters on ethnicity and politics more detailed questions on ethnic ancestry and political stance are asked of a subsample of respondents. Unfortunately, these results are reported as percentages and details on the actual number of respondents or how they were selected are not given, making it difficult to assess the representativeness of these findings.

An important feature of the study that must be kept in mind when interpreting the data is that the survey did not collect information on actual religious membership or affiliation. The survey question instead asks for religious self-identification; the counts of denominational identification are therefore not directly comparable with most studies on religious membership and affiliation. Unfortunately, allowing respondents to create their own self-identified categories makes it impossible to treat the analytical categories as exclusive. For example, we do not know how the 9.7% of the sample that identifies itself as "Protestant" or the 4.5% that identifies itself as "Christian" are distributed across the other categories counted in the study. An advantage of such a study is that it provides interesting information on how Americans identify themselves religiously. Unfortunately, the differences between identification and affiliation are not treated in depth, and too often the distinction is blurred or ignored when comparisons are made with studies of membership and affiliation.

The book holds few surprises and many disappointments for those familiar with religious research. Its most significant findings tend to "discover" patterns of religious affiliation that have been well established

within the body of religious scholarship for decades. For example, the authors state that a major conclusion of their study is that the vast majority of Americans openly state that they are religious, although they may not be an active member of a religious group. For over 50 years the Gallup Poll has asked a series of questions in their annual religious surveys that have consistently found the same pattern. Similar conclusions can be made from responses to questions asked in the General Social Surveys since 1972.

In a chapter titled "Geography Is Destiny" the authors report that "one of the more significant findings was confirmation of the existence of homogeneous religious subcultures within the nation and their persistence over the last hundred years" (p. 51). Apart from the fact that their cross-sectional data cannot possibly speak to trends of regional distribution over time, the chapter largely confirms what religious censuses have consistently discovered since the 18th century: religion is regionally distributed.

In writing this 301-page book, the authors have failed to use the body of historical and social science literature that exists on the topics they discuss. This absence becomes painfully obvious as the authors continually overreach the limited scope of their data to grapple with broadly framed questions such as the moral crisis in America or current religious trends and as they marshal anecdotal observations, studies isolated from their larger empirical context, and armchair social opinions to support their speculations. *One Nation under God* lacks a clear unified thesis, and the authors' arguments frequently overstep their data and the limitations of the research design.

*Continual Permutations of Action.* By Anselm L. Strauss. New York: Aldine de Gruyter, 1993. Pp. xv + 280. \$21.95 (paper).

Thomas Spence Smith  
*University of Rochester*

Best known for extending Meadian social psychology to the study of social organization, Anselm Strauss is responsible for introducing into symbolic interactionism the "negotiated" approach to social order. In *Continual Permutations of Action*, Strauss generalizes the concept of "negotiated order," creating a notion of "processual ordering." By "processual ordering," he denotes a more complex image of social order as the outcome of acts aimed at "ordering"—an outcome, he now emphasizes, often entailing processes other than negotiation. In suggesting how order emerges during interaction, through eventual agreements about divisions of labor, territory, and other issues inherent in the settings of work, Strauss's original concept revealed how empty of real life many sociological notions of social organization were—reifications such as role and status against which he first leveled his guns in *Mirrors and Masks*

(Glencoe, Ill.: Free Press, 1959). The new concept of processual ordering sensitizes us, he argues, to more subtle features of interaction and helps to make more explicit hitherto hidden ways in which Dewey's pragmatism has shaped the sense of the social world present in his work.

Strauss's friends, he says, put him up to his book, claiming to find in his writings an implicit theory. At pains to discover what this amounted to, Strauss returns in *Continual Permutations of Action* to his philosophic roots and attempts to uncover the pragmatist assumptions both in his own and (he claims) in other Chicago-style sociology. Eighteen of these assumptions emerge, followed by an enumeration of their accompanying principal concepts. Acknowledging his debt to Dewey and Mead, he describes this collection of assumptions and related concepts as an "action theory," a description not intended to divulge a closeted Parsonianism latent in these assumptions but to place his emphasis again on acting and interacting. Were it not for confusions unintentionally caused here and there by his wording (e.g., "Assumption 5. The external world is [*sic*] a symbolic representation . . ." [p. 27]), Strauss's assumptions could probably be said to amount to a taken-for-granted background for much interactionist work in sociology. A few of the conceptual tools in his list (e.g., biography) are no more than common-sense categories, but others (trajectory, trajectory phasing, arc of action, etc.) are ideas derived from his own research, and for this reason Strauss claims that his theory is useful. To substantiate this claim, more than two-thirds of his book is then spent providing empirical illustration and loosely reviewing the diverse research from which these ideas have been derived.

From his first taste of Dewey's pragmatism, when he was an undergraduate at Virginia, and of Mead's thought, while he was a graduate student at Chicago, Strauss has followed an intellectual odyssey patterned after the typical Chicago-style program of producing substantive theory. Guided by no aim other than to stay within hailing distance of Mead's social psychology and of Chicago sociology, the intellectual pattern of this life has been, in his own words, "to move from one research project to the next" (p. 9). Substantively fragmented and never subjected to comprehensive logical or theoretical integration, his ideas have evolved in relation to successive observations. Deriving his action theory's concepts from this empirical odyssey, Strauss seems to be encouraging the same peripatetic and ad hoc qualities for sociological theory. A theory, in this view, is a list of concepts accumulated in a career.

How you weigh the contribution of this book will depend on what your own sociological project amounts to. If it is to set about fieldwork in which you take the measure of different social worlds, produce understandings of this or that train of behavior, and show the phenomenal complexity of social action, Strauss may be your man. From my point of view, however, dressing Anselm Strauss as a theorist taxes the imagination. *Continual Permutations of Action* does not quite take the ground from beneath grounded theory, but it does put you adrift among innumerable concepts, leaving you at pains, as Strauss found himself, to reckon

how such ideas are interrelated. There is some loose sense in which his concepts embody pragmatist assumptions, but mainly they serve as an interactionist's tool kit, wrenching insights from interactions closely observed. Even then, the novice interactionist will have to follow his or her own imagination when it comes to making these concepts do any work, since Strauss provides no strict rules to define them in terms of observations. What Strauss's theory lacks in system, it attempts to make up by being hortatory, enjoining sociologists to see the uses of Mead and Dewey and repeatedly warning that most ideas of organization and structure remain primitive concepts unless wedded to a processual concept of interaction—to the notion that what really counts for social structure, when it comes to getting things done, is the continuing business of negotiation and enactment of order.

*Gender, Culture, and Power: Toward a Feminist Postmodern Critical Theory.* By Ben Agger. Westport, Conn.: Praeger Publishers, 1993. Pp. 173. \$49.95.

Charles C. Lemert  
*Wesleyan University*

It is very hard to say what postmodernism is. Whatever it is, sociologists for the most part have distinguished themselves by their reluctance to find out. Feminism, on the other hand, has been in and around sociology for most of the past generation. Though many sociological feminists feel and believe that sociology has been inhospitable to their work, it would be hard to miss the presence of that work, and of feminists themselves, in the intellectual and political life of the field. Though there are postmodern feminists, enterprises recognizable as feminist somehow are of a different order from postmodernisms. This can be determined by the fact that most Marxisms and particularly German critical theory—which are defiantly not postmodern—can be (and are) resources to certain feminisms.

Can the differences and overlappings among postmodernism, feminism, and Marxist critical theory be reconciled? Ben Agger believes not only that they can but that they ought to be. *Gender, Culture, and Power* is a fast-paced, theoretically intense, ambitious attempt to defend and demonstrate such a project. Agger's theoretical method is one of turning what he considers to be the salient interests of postmodernism, feminism, and critical theory against each other in an effort to extract what is valuable from what is not. In his words:

The integration of feminism, postmodernism, and critical theory allows me to theorize the possibilities of *the liberation of women and household labor, the imagination, and the popular*, the respective aims of these three social theories. . . . My version of critical theory suggests that women and household labor, the imagination, and the popular have been equivalently devalued by male supremacy, a modernist philosophy of history, and cultural

mandarinism, respectively. I argue that these three "causes" of domination are, in fact, one, requiring us to rethink theoretical separability and territoriality in creative ways—the aim of this book. Feminism politicizes the household and sexuality; postmodernism interrogates the modernist philosophy of history; and the Frankfurt School theorizes the culture industry politically. Within these three venues of politics and power people actively resist their own domination, working imaginatively and courageously to create vital spaces of what Gramsci called counterhegemony. [p. 4]

Even this long passage cannot do justice to the range of the author's prodigious reading across the major domains of contemporary social theory.

*Gender, Culture, and Power* is the concluding statement of an "oeuvre" (p. 98) of some 10 books—nine of them published in five years (1989–94). Agger began his project with *Western Marxism* (Santa Monica, Calif.: Goodyear, 1979). It is clear from the present volume that his sympathies still lie very deeply with Marxism. Yet Agger has had the courage to face up to the challenges posed simultaneously to Marxism and sociology by new developments such as postmodernism and feminism. Subsequent books before the one under review included *Fast Capitalism* (Urbana: University of Illinois Press, 1989), *The Decline of Discourse* (London: Falmer Press, 1990), and *Cultural Studies as Critical Theory* (London: Falmer Press, 1992). The titles alone indicate the theoretical work that is pulled together in *Gender, Culture, and Power*.

The book is not for everyone. Yet, those with advanced accomplishment in social theory are likely to find it provocative. Some readers will benefit from Agger's confident theoretical judgments, which will confirm the suspicions many have of the subjects he discusses, while leading them to interesting new connections and possibilities. Others, however, will probably be irritated by the manner in which Agger's self-confidence seems at times to verge on the glib. To my taste, he too often treats complicated endeavors like "the New French theory," feminism, and postmodernism as though each possessed evident common denominators. Agger carefully anticipates such a criticism:

In spite of my claim that I respect difference, some theorists may view my argument here as another instance of intellectual imperialism. But this misreading is symptomatic of the times: We *assume* that class, race, and gender are conceptually and empirically separable "realities," to which different theories are appropriate. But difference is not an irreducible "fact." It must be theorized and not assumed. Class, race, and gender are the *same* things—that is, their inferiorization is produced by the same theoretical logic. [p. 2; cf. pp. 77–82, 99–100, 137–143]

I do not suppose I will be alone in finding the last sentence astonishing for its all-too-easy equation of conceptual things with social realities.

In their often quite different concerns with difference, both postmodernisms and feminisms generally are suspicious of totalizing theoretical logics precisely because such logics deny differences in order to degrade.

Agger knows this, of course, and he realizes the risks he takes. I am not myself convinced that the integration he proposes is possible without effacing those differences. Agger believes otherwise and has written a thoughtful, if not entirely persuasive, defense of a position many hold with sincere conviction.

*Strong Interaction.* By Thomas Spence Smith. Chicago: University of Chicago Press, 1993. Pp. xiv + 315. \$39.95.

Norman K. Denzin  
*University of Illinois*

This powerful and intriguing book bears the traces of many theories and theorists: neofunctionalism, psychoanalysis (object-relations and ego-style), cybernetics, exchange, catastrophe theory, rational choice theory, Parsons, Homans, Luhmann, Blau, Kohut, Simmel, Weber, Coleman, Winnicott, Emerson. Mathematical models and graphs abound. This is a serious, rigorous study of strong interaction, what Smith, after Kohut, defines as interactions under the control of selfobject transferences. The feelings of love, enthrallment, excitement, passion, desire, potency, and craving are often attached to such interactions, which are always unstable, because interaction is always an unsettled, disequilibrated process (p. x).

According to Smith the usual interaction traditions (symbolic interactionism, dramaturgy, phenomenology, ethnomethodology) have ignored or not adequately addressed either strong interaction or the instability of this process. For answers he turns to clinical theory (Kohut, Winnicott), action, systems, and rational choice theory (Parsons, Eckert), and exchange theory to argue that three basic ingredients—instability, transference, and the body—underlay all (or at least the most significant) micro- and macrosocial experiences. Together these experiences and levels of interaction constitute what sociologists call the social order, or society.

Transference, especially as expressed by the idea of the selfobject, is the key term here. Borrowing from Kohut, Smith argues that this is a process “in which current partners in social interaction are used as selfobjects . . . or, in the language of systems theory, as an external regulator” (pp. 30–31). Analysts, mothers, and lovers apparently find themselves frequently used as selfobjects. When this process occurs its signals are obvious: exhibitionism, voyeurism, addiction, risky behavior, attachments to a lover, following a charismatic leader, fashion, even behavior in the marketplace. Transference causes all sorts of problems, including false and empty selves, grandiosity, and the spread of addictive attachments.

Smith's theory unfolds in nine chapters. The introduction states the failure of existing theory to address strong interaction. Chapters 1 and 2

develop a cybernetic, analytic theory of the generative self and the process of strong attachments (the transference process): The self is presented as a product of a homeostatic structuration process shaped by positive and negative feedback. Chapters 3 and 4 apply this model to dyadic and other complex interaction systems. These systems are also organized by analogous feedback structures. Chapters 5, 6, and 7 analyze love, charisma, and market hierarchies in terms of the transference-attachment-feedback model. The argument comes full circle in chapter 8, entitled "Nonequilibrium Functionalism." With this term Smith introduces a new kind of functionalism into sociological theory. This functionalism assumes that the processes of explosive feedback, eventual disintegration, and mutual responsiveness organize the behaviors and structures of markets, fashion systems, and other forms of collective action. The claim is simple: order arises from disorder.

Drawing heavily on James C. Coleman, Smith offers a series of meta-theoretical speculations concerning the ultimate merger of micro and macro theory within his model. He argues—perhaps in reference to Coleman's organizational actor—that the behaviors of individual actors and organizations can be easily fitted into this scheme. The hallmark of purposive, nonequilibrating systems is a dependency on initial conditions (the original selfobject transference dependency). This variant of methodological individualism (the flaws are well known) attempts to avoid reductionism, while connecting itself to rational choice theory (p. 248).

The agenda is bold and political, for Smith reclaims the interaction order, long the province of the micro theorists (Simmel, Mead, Garfinkel, Goffman) for the new rational choice, nonequilibrium functionalists. Thus does Smith cover considerable ground from his opening analysis of early childhood socialization processes, to his concluding metatheorizing remarks on the functional properties of nonequilibrating systems, purposive conduct, addiction, and the interaction order.

This is an important book. It fills a gap (strong interaction) in rational choice theory and gives this theory another and more humanistic model (Kohut) of human experience. It brings the work of another psychoanalytic tradition into social psychology, although Smith's neglect of Lacan is unfortunate. It makes important gestures toward a more fully embodied conception of the human actor. Smith's conception of the interaction order is, however, at odds with the traditions it works against. The refusal to seriously engage Garfinkel, Goffman, Giddens, and other theorists of the everyday is a serious flaw. It exposes Smith to the criticism that his theory is unable to fully handle the mundane, taken-for-granted, and ritual foundations of this order on its own grounds.

This is serious on two grounds. First, the interpretive and phenomenological traditions, which Smith dismisses, have engaged his problems in complicated and subtle ways, including theories of strong interaction, emotionality, structure, power, and domination in everyday life. Second, offshoots of these traditions, as given in cultural and feminist studies,

have further thickened and complicated his arguments. These perspectives build on the media and the centrality of ideology, race, gender, and class in the contemporary world. Smith does not take up these terms or perspectives, nor does he connect his framework to the new poststructural and postpositivist discussions of the social text and discursive systems. Thus his text speaks to a form of theorizing that is currently being challenged in many quarters.

By starting with the individual, his methodological individualism leaves him trapped within the narrowly bounded spheres of individual experience. Thus while he claims to offer a dyadic model of experience, its underlying structures are rooted in individual analytic psychology. The hallmark of his nonequilibrating model is its "amnesia for thermodynamic systems" (p. 247). But this model is perhaps overly sensitive and overly dependent on the initial conditions that give rise to its instabilities (see p. 247). It may be argued that Smith's model suffers from flaws common to all genetic formulations; that is, those models that argue that the beginning event in a historical chain determines all subsequent events in that chain. Called the genetic fallacy, this problem has long plagued psychoanalysis. Critics contend that this theory has not been sufficiently attentive to the effects of recent or present events. This was Freud's limitation and it is repeated by Smith. I may be misreading Smith here, but I believe that his entire model rests on the assumption that the enduring structures of the generative self are set by adaptations initially established in relation to the original caregivers of the child (p. 38). If my interpretation is correct, then Smith moves from this initial and original state of transference to the social structure in ways not unlike Freud in *Civilization and Its Discontents*.

There are many ways for a social theorist to put ideas into people's heads and to then move outward to society and social order. The interactionists started with language, the rational choice, psychoanalytic, and action theorists with needs. The ethnomethodologists resist the temptation to do this, and others have followed suit. What a theorist puts into the subject's head can cause epistemological and ontological problems on down the line. The list is long: reductionism, solipsism, dualism, tautological reasoning, misplaced concreteness, and so on. Smith commits many of these errors.

In an effort to build a rational choice, nonequilibrium functionalism, Smith opens himself up to the genetic fallacy and other problems as well, including how to deal with history, language, and culture. His new model corrects flaws in the theories he wants to support, but in the final analysis we must ask if this is the kind of metatheory that we want. We all share Smith's desire to make the world a more efficient place (p. 14). But I doubt that we can get there from where he starts.



*Discreet Indiscretions: The Social Organization of Gossip.* By Jörg R. Bergmann. Translated by John Bednarz, Jr. New York: Aldine de Gruyter, 1993. Pp. xv + 206. \$21.95 (paper).

Stephen Ellingson  
*University of Chicago*

Ethnomethodologists strive to make the world of the familiar unfamiliar, and perhaps nothing is as familiar to us as gossip. In *Discreet Indiscretions*, Jörg Bergmann identifies the rules and strategies of gossip creation, the networks of its production and reception, and the situational contexts in which gossip is likely to arise. The result is a carefully written primer on how to uncover the social organization of the everyday world.

Bergmann prefaces his analysis with an introductory chapter on the difficulties of studying "obvious" phenomena such as gossip. The author thoughtfully discusses the methodological and ethnographic problems of gaining access to the "socially preconstituted quality of gossip" (p. 11). He notes that most ethnographic studies of gossip presuppose the communication process as familiar and use the content of gossip as a window to understand how societies maintain norms or impose social control. However, such an approach fails to explain what constitutes gossip and thereby what makes gossip such a pervasive feature of social life (both privately practiced and publicly denounced by most people). Bergmann suggests that in order to answer these questions about gossip it is necessary to move beyond functional analyses of its content and take seriously both the structural characteristics of gossip and analyze it as a linguistic activity involving complicated relations among producers, recipients, and subjects.

Such an analysis requires Bergmann to define the constitutive features of gossip, specify how producers and recipients are related, and outline the process of producing gossip. In chapter 2 Bergmann treats gossip as a genre of communication that provides producers and recipients with a set of conventions about how to create and engage in the activity, while noting that participants modify the genre through their gossiping. He also says that gossip is thought of as a morally contaminated activity because it involves publicly discussing the private affairs or secrets of acquaintances. In chapter 3 the author suggests that gossip is produced in the context of acquaintanceship networks in which exchange and reciprocity organize the activity.

In chapter 4 the author presents a structural analysis in which he identifies the typical sequence (or model) of gossip and demonstrates the strategies producers use to initiate gossip, induce others to become willing participants in morally risky activity, and to win legitimacy and authority from their recipients (strategies include: reconstructing past events, social typing, and moralizing). Central to his analysis is understanding that the content and process of gossip is organized by social networks. Gossip is produced as "news-for-a-social-unit" by members of social networks

(e.g., friends, coworkers, neighbors, members of a coffee klatch) about the private activities of people known to the social unit (pp. 45–51). Because gossip is morally questionable, participants must not only know one another but the process must be organized by exchange and reciprocity. Thus, he argues that holding information about the private lives of members of a social network places the holder in a contradiction that provokes gossip. On the one hand, information about the private affairs of an acquaintance obligates discretion toward this friend, while loyalty to shared friends obligates revealing this information to them: “Friendship and acquaintanceship relations imply (with different degrees of intensity) mutual trust, which means to bring someone ‘into one’s confidence,’ to ‘entrust’ him with particular things. If Peter has information about the personal affairs of his friend Paul, then Petra, if she is a friend of both, has, to a certain degree, a right to have this information given to her. To withhold it from her would mean not to trust her” (p. 151). The genre of gossip (what Bergmann calls “the social form of discrete indiscretion” p. 151) is created and maintained as an institutionalized solution to the structural contradiction of private information (pp. 150–53).

Bergmann is to be congratulated for writing a thoughtful and well-executed ethnomethodology of gossip. His focus on production, reception, and structural features of gossip is an important addition to a body of work that concentrates on content. However, by failing to analyze the content of gossip, he also fails to consider that what people gossip about may influence how gossip is produced and received or may make some forms more legitimate than others. The relationship between the content, structure, and the process of creating a cultural object merits more attention. Moreover, Bergmann refuses to discuss the wider implications of his research because it is case oriented and explicitly dedicated to building descriptive knowledge (pp. 139–40). Thus, the book concludes without discussing what other cultural phenomena could be studied in a similar manner, how cultural sociologists could best incorporate the analysis of networks in their work, and even how structural ethnomethodology improves our explanations of the everyday world.

Nevertheless, Bergmann’s book is a fascinating study of one of the more denounced but relished phenomena of social life and can serve as a primer for how to do ethnomethodology. His work will be of interest to cultural sociologists, conversation and discourse analysts, and ethnomethodologists.

*Social Contracts and Economic Markets*. By Judith R. Blau. New York: Plenum Press, 1993. Pp. xiv + 218. \$34.50.

Richard Swedberg  
Stockholm University

In order to make its argument, this book draws on several changes of discourse. It contains first of all a *kulturkritik*, which is mainly inspired by the postmodern debate. The author also attempts to portray the 20th-century United States in fairly conventional historical-sociological terms. Finally, *Social Contracts and Economic Markets* includes a moral philosophical discussion with direct policy implications. This mixture of genres makes one think of Simmel's *Philosophy of Money*, a work which was inspired by a similarly broad ambition. At her best, Judith Blau reminds one quite a bit of Simmel, who also seems to be one of her favorite sociologists.

The main argument of this book is not easy to nail down and present in a few lines. Nonetheless, it is clear that the concepts of "social contracts" and "economic markets" are central to the author's enterprise. Though economic and social aspects of society are closely interrelated, it is argued, they need to be separated for analytical reasons. In some areas of reality, there is mostly competition, and the actors' interests are identical in the sense that all want to maximize their individual interests. In these areas "economic markets" predominate. In other areas of society, actors have different interests and therefore need to cooperate. Having different interests means, first and foremost, that one also has to take other people's interests and reactions into account. Hence the need for "social contracts."

While some people may view the economy as rational and society as irrational, Blau disagrees. Most areas of society have their own, distinct rationality: "economic rationality" or "social rationality," as the case may be (e.g., p. 3). The author argues very strongly that a proper balance between economic markets and social contracts has not been struck in contemporary U.S. society. This imbalance has had severe consequences, especially for blacks and poor people. A good society, the reader is told, is one that not only guarantees civil rights and human rights but also "welfare rights" (p. 190), including the right to a minimum of education, medical care, and decent housing.

*Social Contracts and Economic Markets* consists of 11 chapters, each of which traces the conflict between social and economic rationality. In chapter 8, for example, it is argued that the contemporary firm is threatened by an invasion of intense competition. While firms basically represent an attempt to reduce competition in economic life and replace it with cooperation, today's firms are far too influenced by finance capital and its view of what economy should be all about. At this point in the argument, the author refers approvingly to Neil Fliegstein's work and also gives a brief sketch of the history of U.S. capitalism. We are told that "family ownership" predominated from the mid- to the late 19th

century, followed by "managerial capitalism" (1900–45), "conglomerate capitalism" (1945–75), and "finance capitalism" (1975–; p. 130).

In chapter 9 the author looks at culture and fashion in today's society. She argues that these may have a subversive effect in the long run, because fashion and other types of commercial culture change at such a furious pace that it is impossible to maintain a stable cultural hierarchy. A fine line by Cocteau illustrates the point: "We must forgive fashion everything; it dies so young" (p. 145). The author also notes approvingly that popular culture is more democratic than high culture in the sense that it is available to everybody. Thus, there exists a certain affinity between popular culture and postmodernism with its emphasis on multiple discourses.

In chapter 10 the author outlines her own approach to morals and ethics. Rawls is discussed, but the focus is on the conceptual distinction between morals and ethics. The basic idea is that morals has to do with small groups and engages one's whole personality, while ethics has to do with large and complex societies, in brief, with competing groups, each of which engage different facets of one's personality. The author seems to feel that ethics and postmodernism go together in the sense that ethics tend to emerge in situations with many different discourses and where bargaining is imperative.

As the reader of this review has no doubt noticed by now, *Social Contracts and Economic Markets* covers an enormous area and draws on several different genres of discourse. Is the result a success? Yes and no. Yes in the sense that the book contains much that is thoughtful. To mix genres, however, is a tricky business, and it may be recalled that Durkheim and Weber felt quite upset at Simmel's *Philosophy of Money*. To Durkheim it constituted a kind of "bastard speculation" ("Review of Simmel, *Philosophy of Money*," p. 98 in *Contributions to l'Année Sociologique* [New York: Free Press, 1980]), while Weber was sure that "the professional economist would bitterly throw the book in the corner" ("Georg Simmel as Sociologist," *Social Research* 39 [1972]:160). This reviewer did not have a similarly violent reaction while reading *Social Contracts and Economic Markets*. But I must admit that I sometimes felt that the author would have written a better book if she had chosen one discourse and used it to focus on a smaller slice of reality.

*Women and Credit in Pre-Industrial and Developing Societies*. By William Chester Jordan. Philadelphia: University of Pennsylvania Press, 1993. Pp. 161. \$28.95.

Elaine Kempson  
*Policy Studies Institute*

*Women and Credit* is three books rolled into one, and each of them is a good read. Each of the three main sections reviews literature on the part

played by women in offering and obtaining credit, drawing on a substantial list of references. Section 1 focuses on the role played by women in medieval Europe as suppliers of consumer credit. Jordan distinguishes between the distinct roles played by Christian and Jewish women. Christian women generally lent money "on the side," often through their involvement in trade. As market traders and shopkeepers, they extended credit on purchases, gave cash advances to good customers, or accepted goods at pawn. In contrast, Jewish women were more often professional moneylenders and were active in just about every region where there were Jewish communities. Jordan suggests that this was because, by the time that research evidence is abundant in the 13th century, Jews (both men and women) were largely restricted to the business of moneylending or pawning. Interestingly, neither Christian nor Jewish women benefited in terms of status from their role as moneylenders. This was largely due to the market they served—providing the smallest, short-term loans in the domestic market. They were therefore catering to the needs of people who were unemployed or merely short of cash, with many of their borrowers also being women, since it was women who tended to manage the household finances.

I had to keep reminding myself that Jordan was describing the situation in the Middle Ages, as so much of what he described applies to the present-day credit market in Britain. Current research at the Policy Studies Institute on moneylending and on informal and formal credit use by low-income families also shows a strong theme of women lending women small sums of money to make ends meet. Informal borrowing and lending is largely between women—mothers and daughters and female friends—with a large measure of reciprocity. Many commercial moneylenders now have a largely female workforce of local agents, but even here, as in the Middle Ages, women derive little status from this occupation. The management and administration of these companies lie in the hands of men. I found these strong parallels fascinating, since so much else has changed dramatically. The first section of Jordan's book will undoubtedly help shape the analysis of current practices.

Section 2 of *Women and Credit* is only loosely linked to section one and deals with lending for investment and capital formation in late medieval and early modern Europe. Jordan documents an ideological shift away from the guilt-ridden culture of moneylending in the Middle Ages to more open acceptance of interest-bearing loans in the early modern period, at least as far as productive loans were concerned. The women involved in these credit markets seem not to have been risk takers, preferring real estate and annuities to trade. They tended to be wealthy women who became involved in lending money to acquire a degree of financial security for themselves as they reached old age. Many were rich widows, living in rural areas, who granted mortgages on real estate.

The final section is largely unrelated to the rest of the book and looks at credit in sub-Saharan Africa and the Caribbean in the colonial and

postcolonial periods. Here the focus is, again, on credit and credit relationships involving traders in marketplaces. In contrast to the situation in Europe, women were not just traders but also played a central role in market supervision and law enforcement. This power was paralleled by their control of credit. Again, it is striking how much of what Jordan describes resonates with the current credit market in Britain—the credit unions and partner clubs he describes are an important part of many Afro-Caribbean communities. Again the theme of woman-to-woman lending of relatively small sums of money to make ends meet is an important one.

To criticize Jordan for taking a purely historical view of his data would, perhaps, be unfair. He is, after all, a historian and has produced a fascinating synthesis of a large number of documents. However, as a sociologist, I would have liked to have seen some interpretation of his findings in the current context. For me the interesting question he leaves unanswered is Why, when the rest of the credit market has changed beyond all recognition over the last six or seven hundred years, have women remained so important in small-scale lending in the domestic market? This remains an important question for future research.

*Above the Clouds: Status Culture of the Modern Japanese Nobility.* By Takie Sugiyama Lebra. Berkeley and Los Angeles: University of California Press, 1993. Pp. 430. \$45.00.

Jane M. Bachnik

*National Institute of Multimedia Education, Chiba*

*Above the Clouds* focuses on a long-neglected but important subject: the Japanese elite aristocracy, whose formal existence traces from 1884 to 1947 but whose actual history is much more extensive. The subject of the pre- and postwar aristocracy presents a basic discrepancy: Though the subject is vast—the aristocracy extends back to the origins of the Japanese state and its influence permeates Japanese society, including government and the state, the emperor system, marriage, hierarchy, and religion—it has attracted virtually no academic attention. Lebra's is the first ethnography to appear. This neglect may well be due to the formal abolition of the nobility in 1947 under the new Occupation-inspired constitution, which designed a state based on universal equality. The issue is whether the influence of the nobility ended with its abolition or whether this influence has become something like a black hole, which can be sensed only by the dynamics that have rendered it "invisible."

Lebra grapples with this complex subject in a book that has taken 15 years of research based on extensive interviews, historical materials, quantitative tabulations of genealogical records, as well as her own survey materials. The book greatly illuminates most aspects of the aristocracy and is well worth reading for this alone. To the extent that Lebra does not deal with the contradictions involved in the existence of her

subject, however, the organization and focus of the book are not as clear as they might be. In other words, because the subject of the aristocracy assumes the status of a "given" (as what Lebra is describing in this ethnography), the theoretical issues embedded in these contradictions are not scrutinized. Furthermore, having left embedded one series of theoretical issues, the author must then come up with another, which sometimes turns out to be reductionistic. These include Lebra's use of Talcott Parsons's pattern variables of "ascription" versus "achievement" and the dichotomies of "nature" versus "culture."

Despite these difficulties, the book contributes important new perspectives to a wide range of Japanese social phenomena, although because of them, the insights are scattered and do not coalesce as they might have. The reader is taken on a long (and important) historical journey in chapter 2, followed by extensive discussions of genealogy, ancestors, and succession, in chapters 3–4. These chapters are densely written and rich but sometimes seem unfocused. The book comes alive in chapters 4–6 on the lifestyles of the prewar aristocracy, which are the ethnographic heart of the book.

Lebra's portrayals of aristocratic women thoroughly challenge the ideal of Japanese women as good wives and wise mothers; the women she portrays had very little to do with either of these roles. They are also a far cry from the strong, often willful, hard-working, and hard-socializing women of *Suye Mura*, characterized by Robert Smith and Ella Wiswell (*Women of Suye-mura* [Chicago: University of Chicago Press, 1982]). In short, *Above the Clouds* presents important new perspectives on Japanese women.

Lebra also illuminates the emperor system and *ie* (household) organization, particularly in the arena of marriage. She points out that although marriage is important in the *ie*, for the emperor and the aristocracy, until quite recently marriage was often not formalized and women occupied positions of consorts in a hierarchy of concubinage. Thus women were *oku* (interior), occupying hidden or informal, rather than formal, positions in the household structure.

One of Lebra's most important contributions lies in tracing out the asymmetric relationships implied in the terms *omote* and *oku* (front and interior). She develops historical patterns of government characterized by splitting the outer, public use of authority (*omote*) from the interior, hidden (*oku*) locus of its legitimation—begun by the nobility and early emperors and continued throughout the history of Japanese government. Lebra specifically relates *omote/oku* distinctions in the exercise of government authority to *omote/oku* distinctions in the exercise of household authority and gender relations, thus linking the emperor/government relationship more broadly to Japanese social organization, through the nobility as a kind of bridge. Lebra further proposes these asymmetric linkages as a general paradigm for hierarchy in general, and Japanese social organization in particular—a proposal that has considerable potential.

Lebra's discussions of adoption, genealogy, and aristocratic succession in chapter 4 are also important. However, her theoretical focus for view-

ing culture through a bedrock of nature (and achievement through ascription) sometimes seems to work against the data she presents. Thus, in trying to anchor genealogy and aristocratic and imperial succession in an ascriptive system, Lebra gives considerable evidence for a different kind of system, in which the ascriptive components are merely one element entering into a situationally configured (and open) choice. For example, Lebra notes that the "ascriptive heredity" of the imperial household sons was based on a designation of *shinnō* (potential successor) but that no fixed standard existed for making this designation. Thus, "without the authentication of an imperial decree, even the emperor's blood son could not become a *shinnō*, while with it even a remote . . . prince could be recruited into *shinnō* status, thereby becoming the emperor's 'son' " (pp. 54–56). This kind of system would in fact support Lebra's argument of asymmetric *omote/oku* relationships as paradigmatic to Japanese society, whereas Lebra's anchorage of the former to an ascriptive focus moves them in precisely the opposite direction.

*Above the Clouds* puts the subject of the Japanese aristocracy out on the table so that the questions surrounding its nonstatus as a subject can now be raised. The book also provides a wealth of carefully wrought information that suggests new perspectives on women, gender, marriage, the imperial system, and hierarchy. Besides presenting her own interpretations, Lebra gives readers enough data to allow them to attempt other possible interpretations (as I have just done). The book is important, enormously provocative, and should be read by all with interests in gender, hierarchy, contextually defined organizations, and Japanese society.

*Blood, Sweat, and Mahjong: Family and Enterprise in an Overseas Chinese Community.* By Ellen Oxfeld. Ithaca, N.Y.: Cornell University Press, 1993. Pp. xi + 291. \$42.50 (cloth); \$16.95 (paper).

Martin King Whyte

*National Science Foundation*

A generation ago it was widely accepted that the Chinese family system constituted an obstacle to economic development, a factor helping to explain why China had been much less successful in modernizing than Japan and the countries of the West. The insularity and nepotism of Chinese families, it was claimed, interfered with rational economic performance. The startling economic successes of Taiwan, Hong Kong, Singapore, and in recent times even the People's Republic of China have forced us to reexamine this widely held view. That earlier analysis has been replaced by a new literature in which the Chinese family is portrayed as a veritable engine of development. In this revisionist view, if the various governments that control Chinese populations will just stay out of the way or, better yet, adopt policies that are supportive, Chinese families will drive the economy forward. Chinese families, we are now told, are a constant source of dy-



namic entrepreneurs and productive workers. Is this new analysis any more accurate than its predecessor? In trying to make sense of these contrary arguments, we are hindered by the scarcity of good ethnographic studies of how Chinese family enterprises actually operate. This gap makes Ellen Oxfeld's fine new study particularly valuable.

Oxfeld studied a community of Chinese, living in Calcutta, India, who are heavily concentrated in the leather tanning business. She conducted her fieldwork in that community between 1980 and 1982, made several return visits since then, and also conducted interviews in Toronto among offshoots of Calcutta Chinese families who emigrated to that city. Leather tanning is, of course, a low-status, polluting occupation in Hindu India. The Chinese who established a center for this trade in the Dhapa district of Calcutta early in the 20th century were predominantly Hakkas, a distinctive linguistic group within China. In general the Dhapa Chinese community has prospered, with some of the members who have emigrated to Canada looking back fondly on the lifestyle they left behind in Calcutta (and a few eventually returning permanently to Dhapa). Virtually all of the nearly 300 Dhapa tanneries are small, family-run enterprises; the largest Oxfeld studied had 150 employees, but most had 20 or fewer. The smallest firms rely totally on family members for labor power; the larger ones employ low-caste or Muslim Indians as laborers.

Oxfeld's overall argument does not fall clearly into either the "family as obstacle" or "family as engine" camp, although on balance she would probably side more with the latter. Her work presents a detailed portrait that illuminates both the economic strengths and weaknesses of Chinese family enterprises. Her book contains detailed discussions of the entrepreneurial values of the community and the sources of those values. She also describes in detail the ways in which Chinese families induce family members to work hard and make sacrifices for the sake of the firm and the family. Yet she also portrays vividly the often intense conflicts that divide families and make partnerships among brothers an unstable business form. This book provides one of the best portraits I have seen of the constant tension between loyalties to the extended Chinese family and one's own immediate or nuclear unit.

Along the way we are given informative treatments of a wide variety of other topics. The mahjong in the title is a clue that the author is fascinated by the widespread addiction to gambling in Dhapa and discusses the extent to which this enthusiasm conflicts or is congruent with rational business behavior. There is also a wide-ranging discussion of the role of women within Dhapa family enterprises and a detailed analysis of why some women are actively involved in the business while others are not. Conventional topics in discussions of Chinese family life, such as inheritance and family division, are also given their due. The result is a rich and informative picture that helps us understand how Chinese family dynamics and enterprise dynamics intersect. There is much here even for those who are not interested in big questions about the role of the Chinese family in development. This fascinating ethnographic study deserves a wide audience.

*City on the Edge: The Transformation of Miami.* By Alejandro Portes and Alex Stepick. Berkeley and Los Angeles: University of California Press, 1993. Pp. xvi + 281.

Thomas J. Espenshade  
*Princeton University*

This is a story of Miami, Florida, a city on the edge of opportunity and challenge, and of its people—Anglos, blacks, Jews, Cubans, Haitians, and Nicaraguans—who have transformed the city's demographic, social, economic, and political history. The opportunity for Miami is to become one of the first successful experiments in international multilingual, multicultural living. The challenge is to ensure that all of the area's residents, including blacks and Haitians, participate fully in its unfolding economic and political life.

The drama of what is happening to the city is played out over nine chapters. Little about Miami was left unchanged by the pivotal events of 1980: the arrival of poor and desperate migrants from the port of Mariel in Cuba and from Haiti, coupled with black riots. For Cuban-Americans and blacks, these events "galvanized the two ethnic communities and provided the basis for a vigorous effort at reinterpretation" (p. 50). For many Cubans, it meant postponing a dream they had of returning to Cuba and instead taking a more active part in Miami's political institutions. For blacks, it meant a more assertive articulation of their disadvantaged minority status.

Subsequent chapters provide a broader historical perspective. The history of Florida and of Miami is chronicled from the days of the early Spanish and English explorers, through the blandishments of Julia Tuttle to persuade Henry Flagler to extend a spur of his railroad south to the mouth of the Miami River in the 1890s and thereby create an eventual American Riviera, to the overthrow of Batista in 1959. There is also an illuminating account of the subsequent rise of the Cuban economic enclave. It depended for its growth and survival on a stable market for culturally defined goods and services, on a pool of loyal low-wage workers, and on an influx of capital. The first two were readily available, but Anglo banks were reluctant to make loans unsecured by collateral, and Cubans did not follow the Asian practice of rotating credit associations. Credit restrictions were overcome once Cuban managers had worked their way up to loan officers and began making small "character loans" based upon the applicant's business reputation in Cuba. The success of the enclave was reinforced by its moral character, that is, by the sense of "we-ness" or bounded solidarity created by a militant anti-Castro, anticommunist sentiment.

Additional sections focus on the Nicaraguan exodus to Miami that began in the early 1980s and reached a climax in 1988–89 and on the experiences of Miami's black community. Cuban-Americans welcomed the Nicaraguans partly for their Latinness, for the additional demand they helped create for Cuban-enclave products, and for resupplying pools

of low-wage labor. But they also received the Nicaraguans warmly because they viewed them as escaping another repressive left-wing regime. This warm welcome was not matched by U.S. government policy, however, which was hostile toward permanent resettlement of Nicaraguans in the United States. Many in Miami's black population were rendered powerless by fragmentation along class lines as well as by neglect from the Cuban-American community.

Two themes lie beneath the narrative. The first is Miami's uniqueness. In Miami, the authors argue, politics determine economics rather than the reverse. Few American cities can claim to have risen to such prominence without first having had economic locational advantages. The business class exercises considerable influence in running Miami, but this group is increasingly composed of new immigrants. The old Anglo hegemony is dissipating in favor of "parallel social structures" with their own social and cultural life. Although these discrete ethnic frames occupy the same physical space, they "seldom incorporate points salient to the others but slide, as it were, on different planes" (p. 212). Miami is also an example of acculturation in reverse, a process whereby foreign customs and institutions are diffused throughout the native population, pulling the native population with it. Second, Portes and Stepick believe there are growing signs of integration and cultural convergence among several of Miami's major ethnic populations and that this trend is inevitable in the long run. Ethnic politics provide the vehicle for convergence, because "the achievement of political power socializes immigrants into the functioning of mainstream institutions" (p. 215).

This is an immensely rich and pulsating account of contemporary ethnic life in Miami. The authors document the tensions separating racial and ethnic groups and project that most of these differences will disappear with time. The lessons for other multiethnic communities are not as clear. Miami's experience is initially described as "unique and unlikely to be repeated" (p. xii), but elsewhere the authors say, "This singularity does not, however, mean that Miami's experiences are not replicable" (p. 208). This point, however, is small. *City on the Edge* is likely to become a hallmark in urban ethnography.

*The Arab Minority in Israel's Economy: Patterns of Ethnic Inequality.* By Noah Lewin-Epstein and Moshe Semyonov. Social Inequality Series. Boulder, Colo.: Westview Press, 1993. Pp. xvii + 169. \$45.00.

Calvin Goldscheider  
*Brown University*

The continuing disadvantaged socioeconomic status of the Arab minority in Israeli society challenges the democratic foundations of the Jewish state and its ideological principles. Using a framework that emphasizes ethnic labor markets and economic competition, this volume enhances

our understanding of ethnic stratification in Israel and contributes to the clarification of the linkages between ethnic economic competition and social inequalities in pluralistic societies.

The first two chapters outline alternative theoretical approaches to studying Israeli Arabs and provide a profile of their status as a disadvantaged minority. The interface of individual-level characteristics and labor market changes is particularly useful in identifying the structural basis of socioeconomic inequality among subordinate minorities. Lewin-Epstein and Semyonov's descriptive profile of Israeli Arabs is historical and multidimensional; tracing changes in demographic processes and noting the Arabs' ethnic heterogeneity, their political, legal, and socioeconomic status, their residential and regional segregation, the unequal allocation of resources to their communities, and the role of kinship in shaping their economy.

In chapter 3, Lewin-Epstein and Semyonov review the economic history of relations between Arabs and Jews in Palestine and Israel, identifying the sources of their increased economic separation after the establishment of the state. The intensification of the Arab-Jewish conflict in Israel, along with demographic shifts associated with selective Arab out-migration and Jewish immigration, resulted in separate and unequal paths of economic development. The changing economic base of the Arab sector and the altered occupational structure are detailed; changes in the fit between the Arab occupational distribution and the labor market are sketched. The authors show the shift of the Arab economy from agriculture to services, increasing Arab employment within the Jewish sector, concomitant declines in Arab self-employment, and increases in Arab dependency on economic opportunities in the Jewish sector. The connections between the economic "integration" of the Arab minority and their resultant socioeconomic disadvantages emerge clearly.

Moving from the macro level to a combination of individual and labor market characteristics, the next three chapters form the heart of the analysis. In chapter 4, the authors detail how community segregation affects the earnings of the Arab population and analyze the occupational status and income of Arabs employed in different local labor markets. Arab and Jewish Israelis are competing for socioeconomic rewards with unequal resources, with the Arab minority clearly disadvantaged. While women represent only a small proportion of the economically active Arab population documented in official statistics, the analysis of their occupations and earnings inside and outside the Arab labor market reveals their disadvantaged status.

One part of the argument associated with the economic disadvantage of minorities within a labor market-ethnic competition framework is that superordinate groups benefit from economic discrimination against minorities. The authors show that Arabs suffer economic discrimination in all local labor markets where Arabs work with Jews and that Jews, particularly those at the top of the occupational hierarchy, gain relative to the level of discrimination. A brief examination of Jews employed in

Arab labor markets (mostly in administrative and supervisory positions) rounds out the analysis. The final chapter shows that economic discrimination poses a dilemma for Israeli's democratic principles and holds the potential for generating ethnic conflict.

Most of Lewin-Epstein and Semyonov's data come from the censuses of Israel, the latest of which was taken over a decade ago and cannot address the major political and economic changes associated with Arab Palestinians not living in the state (but in areas administered by it) and the economic impact of the recent mass Jewish immigration from the former Soviet Union. Although their own descriptive data and analysis point to the importance of ethnic heterogeneity within Jewish and Arab populations, the authors present a disconcerting mixture of comparisons—sometimes Israeli Arabs are compared to Israeli Jews, other times the comparisons are between the detailed groups of Arabs (Muslim, Christian, and Druze) and Israeli Jews by ethnic origin. The authors shuttle between the individual and market levels of analysis and ignore for the most part the household and family levels, where some would argue major economic action takes place. Their data and their theoretical framework do not direct them to investigate the powerful role of economic networks among Israeli Arabs and Israeli Jews.

The book integrates the basic empirical materials that the authors have presented in sociological journals over the last several years. These have been carefully re-presented and elaborated upon to provide a sustained and convincing argument. It is unlikely that the dilemma of the Arab minority in Israel will soon disappear. The analyses in this volume will certainly influence future research about these issues in the state of Israel and elsewhere where similar processes are unfolding.

*Persistent Inequality: Changing Educational Attainment in Thirteen Countries.* Edited by Yossi Shavit and Hans-Peter Blossfeld. Boulder, Colo.: Westview Press, 1993. Pp. xi + 396. \$45.00.

Kathryn S. Schiller  
*University of Chicago*

During this century almost every country has expanded its educational system at some level. Yet studies of changes in educational attainment are usually limited in scope and vary in methodology. Thus, large-scale comparisons of educational stratification systems across time and countries are difficult if not impossible.

In 1988, members of the Research Committee on Social Stratification of the International Sociological Association became concerned with the lack of cross-national and historical explorations of changing educational attainment patterns. In response, the committee invited its members to provide analyses of educational attainment in countries with which they were familiar. The goal, as editors Yossi Shavit and Hans-Peter Blossfeld

describe it, was to have "highly standardized" analyses that were "sensitive to the idiosyncracies and historical development of each society" (p. ix). *Persistent Inequality: Changing Educational Attainment in Thirteen Countries* successfully walks this tightrope to provide a valuable comparison of educational stratification systems around the world.

In the first chapter, Shavit and Blossfeld lay out the general theoretical and analytical framework for the analyses in the book. The overarching question is "To what extent has the relationship between parental socioeconomic characteristics and educational opportunities changed over time and why?" (p. 6). The authors identify six hypotheses based on cultural and economic theories of educational stratification. All predict different patterns in the relationships between social background and trends in both educational attainment and the likelihood of making transitions between levels of schooling. For example, modernization theory suggests that with increasing modernization and expansion of the school system, educational selection will become more meritocratic. This should result over time in declining effects of social origins on the probabilities of making transitions to further levels of schooling. The other five hypotheses are based on theoretical issues of cultural reproduction, maximally maintained inequality, socialist transformation, life-course changes, and differential selection.

Shavit and Blossfeld describe the analytical methods as "partially standardized" in the type of data, variables, and statistical techniques. The studies generally use nationally representative data for cohorts born between 1910 and 1960. In all analyses, socioeconomic origin is measured by father's education (measured by highest grade completed) and occupation (measured using standard classification systems). Gender is also used in all but three chapters. These social background and cohort indicators were used to estimate two sets of models: (1) OLS regressions of highest grade completed or qualification attained and (2) logit regressions of successive educational transitions. Four basic transitions are examined: completion of primary education, from primary to secondary education, completion of secondary education, and from secondary to some tertiary education. Some studies also included the transition to vocational education in addition to secondary or postsecondary schooling.

The chapters, one for each country, are grouped according to basic cultural and economic systems. First are the Western capitalist countries of the United States, the former Federal Republic of Germany, England and Wales, Italy, Switzerland, the Netherlands, and Sweden. The next two chapters feature the non-Western capitalist nations of Japan and Taiwan. Then come three chapters on the formerly socialist countries of Poland, Hungary, and Czechoslovakia. A chapter on the analysis of Arabs living in Israel is also included to provide the contrast of a population shifting from mass illiteracy to nearly universal primary education and from peasantry to a proletarian society. The diversity of countries allows comparisons between levels and timing of industrialization, political sys-

tems, organization of educational systems, and both educational and social reform efforts.

Despite their diverse social and educational structures, the countries in *Persistent Inequalities* show some consistent patterns. For example, the effects of social origin decline over successive transitions between levels of schooling. This pattern has not changed over time despite a general increase in educational attainment, which is mostly due to expansion of opportunities at the primary and secondary levels. Efforts at educational reform also do not seem to affect the relationship between educational attainment and social origins.

Sweden and the Netherlands provide the exception to the findings that the effects of social origin did not change between cohorts. Both show a consistent decline in the effect of social origin on mean levels of attainment and the probability of making transitions. Shavit and Blossfeld suggest that these two deviant cases are the result of "long-term commitments to socioeconomic equality" in the society as a whole, not just in education. They suggest that formerly socialist countries did not experience these declines because "the bureaucratic elites were as effective in protecting the interests of their children as elites in other types of societies" (p. 21).

Some may feel the models used in *Persistent Inequalities* are too simple. For example, Robert Mare suggests in the final chapter that information about siblings' educational attainment should be added to models as a measure of heterogeneity within and between families. These analyses also do not address possible differences in the process of stratification due to institutional and organizational factors. However, finding data sets in 13 countries able to address these questions would probably be impossible. Thus, although it has limitations, this book provides a solid overview of the systems in these countries across the early part of this century.

While the book's structure allows easy comparisons between countries, that structure also makes it read somewhat like an encyclopedia, with similar passages and tables found in successive chapters. Often the most interesting section in each chapter is the historical and organizational description of the schooling system of the country it features. Regardless, *Persistent Inequalities* makes an important contribution to the literature on educational stratification and provides a baseline for future cross-national and historical analyses of educational stratification systems.

*Diverging Pathways: Social Structure and Career Deflections.* By Alan C. Kerckhoff. New York: Cambridge University Press, 1993. Pp. xvii + 254. \$35.00.

Aage B. Sørensen  
*Harvard University*

Methodological sophistication and precise sociological theory about attainment processes characterize Alan C. Kerckhoff's many articles and books about schools and their impact on student development and achievement. This latest contribution, *Diverging Pathways*, is the culmination of these efforts to date, and is a very impressive achievement.

Kerckhoff's research originates in the status attainment research pioneered by Otis D. Duncan and William H. Sewell in the 1960s. The research closely adheres to this tradition's high methodological standards, and Kerckhoff shares the emphasis on temporal ordering of causal influences expressed as links between variables. However, in one crucial respect Kerckhoff significantly departs from the status attainment tradition's conceptual orientation. Kerckhoff is very interested in structural sources of variation in attainment outcomes.

The status attainment tradition usually concludes that structural factors do not matter much—meaning that the context, whether measured by school, community, labor market, or some other structural variable, does not make much difference for attainment outcomes. Those claiming otherwise are assumed to use inferior methods. Since variables measuring structure do not seem to matter, there is no reason to pay attention to them. In research on schooling processes, this has remained the conventional wisdom, especially regarding school effects on schooling outcomes. In contrast, in research on social and economic attainment, status attainment research was replaced by a tradition preoccupied by finding structural effects in the labor market.

Kerckhoff's main interest is in structural effects on schooling processes. Here, the conventional wisdom seems to have substantial empirical support. But the appearance of support may be misleading. The design of most research on U.S. schools is unlikely to reveal structural effects given the nature of these schools. Most quantitative research uses large cross-sectional samples to study the relative influence of school variables and background variables on measures of academic achievement. The influences of background and school variables are very much confounded in cross-sectional data. Further, American schools vary a great deal by locale so that it is not at all clear what variables characterizing structural features of schools, such as tracks and ability groups, actually measure. Nor do American schools teach the same things so that comparable outcome measures can be considered to reflect individual abilities rather than local efforts. Structural effects on schooling outcomes would be much easier to establish in school systems where the structural



features are “cleaner” and where schools differ less by locale in what they are trying to do. An example of such a school system is the British system. Being an intelligent researcher, Kerckhoff therefore chooses to study structural effects on schooling processes in British schools. Here there is a reasonable chance to know what school structural characteristics measure—in Britain these features are ability groups, secondary school type, and the like.

Studying structural effects on attainment outcomes in Britain provides another advantage: the availability of very rich longitudinal data. *Diverging Pathways* uses a unique data set with information on family, schooling, and employment events and experiences for everyone born in Britain in the first week of March 1958. Data were collected at birth and at ages 7, 11, 16, 20, and 23. The data are unusually rich in information and the quality of the data is evidently high. No comparable data exist in the United States. Britain thus has structures that are easier to measure and trace and better information on the lives they shape. Kerckhoff has made effective use of these opportunities.

The main analysis is presented following the chronology of the lives of the cohort. *Diverging Pathways* first analyzes the educational outcomes of the elementary school period, then the outcomes of the secondary school period, and finally the results of the early labor market experiences. The main strategy for establishing structural effects is to show the impact of an advantaged or disadvantaged structural position for the attainment of comparable students. For example, the effect of ability grouping in elementary (or junior high) school is shown by a systematic comparison of those who experienced ability grouping with students not grouped. A typical finding is that those in high groups learned more and those in low groups less than comparable students in ungrouped classrooms or schools. The secondary schools perpetuate and magnify this inequality. Here, the structural locations are created by different types of secondary schools (elite, comprehensive, and secondary modern) and by ability grouping patterns in the various school types. The creation of inequality continues in the postsecondary schooling stage and then in the labor market, where new types of structural locations are created by industrial location and firm size. The postsecondary school stage also increases inequality, but here Kerckhoff shows some reductions in the cumulation of advantages and disadvantages, particularly for men in the labor market. A similar pattern of some compensation for earlier disadvantages does not occur for women.

Kerckhoff analyzes the patterns of educational and employment careers in a way that is both original and informative. He uses the device of showing how structural locations in schools and in the labor market deflect the career paths for comparable youngsters. In this manner he provides a clear and revealing illustration of the cumulative effects of structure on careers.

In the theoretical part of the book, Kerckhoff specifies three ways in which structural effects can come about: by altering the opportunity

structure, by changing individual capacities, or by providing structural advantages. He cannot, with the information available, disentangle the relative importance of these three mechanisms. This task is the obvious next step for research in the tradition of *Diverging Pathways*. However, what he has already accomplished is a significant step forward, and I warmly recommend this book to serious scholars concerned with the general mechanisms by which inequality is created.

*School to Work Transition in Japan: An Ethnographic Study*. By Kaori Okano. Philadelphia: Multilingual Matters, 1993. Pp. xv + 286.

Mamoru Tsukada  
*Sugiyama Jogakuen University*

*School to Work Transition in Japan* presents a vivid description of the job-referral process as practiced and interpreted by teachers and students in two non-university-bound high schools in Japan. This book deals with unexplored aspects of Japanese high schools, describing the lives of students and teachers who have not necessarily been affected by college entrance examinations. It also contributes to the sociology of education by describing how schools affect students' decision-making process for choosing their jobs. Based on her one-year fieldwork at two vocational high schools, Okano provides an authentic picture of the job-placement process by making the most of her thick ethnographic descriptions of actors' accounts.

According to Okano, "the central focus of this book is to chart the differentiation among the students at the moment of school to work transition. In this crucial transition period, these students created a variety of personal trajectories by activating school and family resources" (p. 1). The book argues that in the process of obtaining jobs students with family resources can use these resources effectively. For students without family resources, school plays a compensating function through the job referral system and thus exerts an egalitarian effect within the non-elite school and job hierarchy.

The strengths of this book arise from rich ethnographic descriptions of the teachers' views about job placements for the students and the students' perceptions of job possibilities in chapters 4 and 5. Chapter 4 describes how the job referral system was practiced by the school and teachers from the teachers' perspective. This eight-phase process places students into appropriate jobs after high school graduation through job acquisition guidance. Okano argues that this system may look paternalistic to outsiders but the system should be called "maternalistic" since the parties involved—teachers, the school, employers, and a state agent in the system—all cooperate to "minimize students' failure with care and protection" (p. 2). By means of the internal selection in school based on academic performance, health, school attendance, personality, and sports

club and student council involvement, the school decides an appropriate company for each student by working on matching between companies and students. By citing teachers' words, Okano is successful in demonstrating how the teachers are independent enough to have relative autonomy from the school, the employers, and the state to play a maternalistic role for their students.

Chapter 5 describes the students' perspective on the job referral system. Okano emphasizes the different trajectory of each student while deemphasizing the stereotyped uniform image of Japanese students. By using specific cases with detailed narratives, she argues that each student's different perception of available resources in the family and the school affects his or her choice of a company. In the process of choosing, the students adjust their wishes or plans based on information and advice from the school. Okano also illustrates the students' unique interpretations of the system. For example, the internal selection system seems like a coercive sorting mechanism for the students. However, the students better accepted failure to get their first-choice company when it occurred in the internal selection than when it occurred through recruitment examinations.

In chapters 6 and 7 Okano tries to use Bourdieu's concept of capital to explain the aforementioned differentiation among students with six illustrative case studies. She argues that the students activate available resources differently due to differences in their perceptions of the availability of resources. Since the subjects of this study are "from families who do not possess a large amount of positive family resources" (p. 209), Okano elaborates Bourdieu's concept of capital and introduces the terms "resources," "positive resources," "negative resources," and "neutral resources." She concludes her analysis of students' employment-related decisions and consequent job acquisition by discussing the interaction among three levels: (1) availability of family-based and school-based resources, (2) perception of resources, and (3) activation of resources. Students' habitus determines the perception and activation of resources. However, Okano does not argue that "habitus is so powerful that the process is unilateral and therefore deterministic. Changes in surrounding conditions, and particular actions and events, could and did influence individual outcomes in relation to job decision and acquisition. These actions often comprised direct intervention by people close to the students concerned" (p. 240). Okano's six illustrative cases are interesting to read but less persuasive than the vivid picture of the job-choice decision-making process in the previous two chapters. Okano did not specify the content of the habitus that differentiates students in the study, giving only a general definition of the habitus as "a product of one's past experience and material conditions" (p. 249).

In sum, this book is well written and provides an insider's view and detailed ethnographic descriptions of one of the least explored aspects of the Japanese school system. This book deserves the attention of American sociologists as well as Japan specialists.

*Gender and Racial Inequality at Work: The Sources and Consequences of Job Segregation.* By Donald Tomaskovic-Devey. Ithaca, N.Y.: ILR Press, 1993. Pp. xi + 212. \$38.00 (cloth); \$16.95 (paper).

Patricia A. Gwartney-Gibbs  
*University of Oregon*

The theoretical and empirical conundrums of gender and racial inequality in employment have long engaged sociologists and economists. The parameters of labor-supply and labor-demand debates are familiar and well defined. Yet the field continues to unfold past individual- and market-level explanations of inequality to organizational, cultural, familial, legal, political, and symbolic explanations. Few scholars venture past sideline skirmishes on these issues. The book reviewed here is an exception and is a "must read" for scholars in this area.

Donald Tomaskovic-Devey transforms a sample survey of 836 employed North Carolina adults into a thorough test of competing explanations of the sources and consequences of job segregation by race and sex. He clearly and thoroughly draws theoretical arguments from sociology and economics and systematically applies them to both race- and sex-based issues of job segregation, job choice, wage inequality, and related issues, delineating where they work, where they do not, and why.

Tomaskovic-Devey's innovation in this well-trod field is to incorporate the concepts of "status closure processes" and "status composition processes." "Status closure processes are the means by which superordinate groups preserve their advantage by tying access to jobs or other scarce goods to group characteristics," such as race and sex (p. 9). This approach is distinct from standard accounts of discrimination by pointing out that "historical and contemporary patterns of exclusion involve not only discrimination or market mechanisms of job allocation but also privilege" (p. 10). Status composition processes refer to how jobs "take on a gendered or racial character that is independent of their incumbents and that influences how the jobs are concretely organized—their level of complexity, autonomy, authority over other jobs, the manner in which they are controlled, and their level of earnings" (p. 12). Furthermore, the two processes interact: "Social closure processes tend to sort women and minorities into low-quality jobs. When a job becomes socially associated with women or a minority group, status composition processes may further disadvantage that job relative to other positions with similar skill requirements or power resources" (p. 13).

Chapter 1 sets up a framework for the book with general discussions of sex and race segregation in employment and their resulting inequalities. It also summarizes the key theoretical arguments: status closure processes (the devaluing of women's and blacks' work) and status composition processes (the denial of access to good jobs). Chapter 2 introduces readers to the study's survey data, the 1989 North Carolina Employment and Health Survey (NCEHS), and to measures of job-level sex and race segre-

gation used in the analysis. The more technical appendix convincingly assesses the data's and measures' validity and reliability. However, some readers may question Tomaskovic-Dewey's claim that the telephone survey produced both a random sample of workers and a random sample of jobs.

Chapter 3 summarizes current debates about individual-level sources of job segregation, focusing upon neoclassical economic (human capital) theory and socialization theory. In addition, Tomaskovic-Devey summarizes an impressive array of findings from extant empirical tests of these approaches, including original analysis of NCEHS data, with particular attention to incumbency in sex- and race-integrated jobs. He finds evidence for labor-supply explanations of sex and race segregation to be very weak.

Turning to demand-side explanations, chapter 4 summarizes current theoretical issues about sources of job segregation at the workplace level. Tomaskovic-Devey contends that statistical discrimination theory is a more narrowly framed version of social closure theory: "Discrimination is not merely a matter of prejudice or belief systems but of creating and preserving advantage" (p. 61). Presenting social closure strategies, he examines how patriarchal and racist practices vary across subcultures, competing markets, and organizational structures. Drawing upon firm- and job-level data (e.g., firm size, market sector, formalization, job size, training time, required credentials), he finds strong evidence for social closure processes affecting job composition, particularly by sex.

Chapter 5 focuses upon organizational and job processes that sort women and blacks into jobs with differing opportunity, supervision, task complexity, authority, and responsibility, as well as status composition processes in which race and sex composition independently affect labor processes. The author finds mixed support for hypotheses concerning firm- and job-level social closure processes. Status composition processes are evident for women but not for blacks, and Tomaskovic-Devey finds mixed results for the interaction of race and sex.

Chapter 6 presents results of earnings regressions, in which jobs' sex composition accounts for 56% of the sex gap in earnings and jobs' racial composition accounts for 21% of the race gap, net of job and human capital characteristics. Chapter 7 provides a comprehensive reexamination of human capital, statistical discrimination, social closure, and status composition theories in the light of Tomaskovic-Devey's findings. Particular attention is given to issues of "the declining significance of race," patriarchy, and job quality. Chapter 8 concludes with a detailed discussion of the findings' policy implications.

This book is notable for being well situated in prior research and for excellent cross-referencing of findings and arguments across chapters. In addition, the material is presented in a writing style engaging enough to make it accessible to advanced undergraduates.

*No Man's Land: Men's Changing Commitments to Family and Work.* By Kathleen Gerson. New York: Basic, 1993. Pp. xvi + 366. \$25.00.

Bob Blauner

*University of California, Berkeley*

Despite two decades of men's studies in the academy, not to mention a variety of men's movements that have sparked national debates on American masculinity, the sociological study of gender remains largely the study of women. So it is an important and welcome phenomenon when Kathleen Gerson, a leading scholar in the field, turns her attention to men in her valuable and rich book, *No Man's Land*.

What is even more remarkable is that when Gerson examines what is going on with men and masculinity today, she gets it right. This task is not easy. There is much hype in the media and on the best-seller lists about the "gender wars" and much distortion in the accounts of "changing men," including dismissing as a "backlash" against women those men who are confronting themselves and one another in new ways. What Gerson sees is actually there: American men are a diverse lot with complex realities. There is no typical American male, and, if there were, he would not be simply a white male oppressor defending his privileges at any cost. Some men take women, feminism, and their own need to change quite seriously.

Gerson previously examined the interplay of work and family in her highly acclaimed *Hard Choices*. In *No Man's Land* she turns a similar focus on men's experiences in these areas. Her method is the in-depth interview. She selected 138 men randomly from two samples in the larger New York City area. The alumni lists of a private university provided a middle-class group. The other respondents were working class and came from the membership of a central labor council. The men were relatively young (between 28 and 45 years old) and represented the gamut of marital and employment statuses.

From the way they conceived the interplay of work and family in their life structures, Gerson found that these men divided almost equally into three groupings. One group consisted of traditional breadwinners, who saw themselves as primarily responsible for their family's economic well-being and not much else. A second group Gerson calls "autonomous" men. These men seek freedom from commitment, in work and family, as their highest priority. (As the author points out, Barbara Ehrenreich in her *Hearts of Men* [Garden City, N.Y.: Doubleday, 1983] mistakenly saw such a flight from commitment as the basic stance of men in general.) Finally there is a group that Gerson calls "involved fathers," who see their family participation as equally or even more important than their work. Shared parenting, whether on a truly equal basis or less so as "mother's helpers," was a phenomenon that cut across class, despite our tendency to see it as an upper-middle-class phenomenon.

Gerson contends that the way men think, feel, and act is contingent upon their experiences—not just the examples of their fathers (and mothers) but the lessons of their own lives. She provides trenchant critiques of some of today's leading theories—for example, that there are characteristic gender personalities, that there are male and female cultures that shape our gender behavior, and that men act primarily on the basis of their patriarchal power and privilege. What these theories cannot account for, in her view, is the way that the men she studied moved back and forth from one orientation to another over the course of their lives. Indeed, an analysis of the factors that account for shifts from one type to another takes up a good part of the book.

I have two reservations about this excellent book. The strength of Gerson's approach, her focus on work and family, is also a weakness. Her approach to manhood (well reasoned in chap. 9, "The Myth of Masculinity") tends to be somewhat limited. We learn in exquisite detail the ramifications of how men think about their work and their families. But central as these issues are, they are not all there is to the age-old question of "What does it mean to be a man?" Missing are dimensions of deep emotion, philosophical vision, spirituality, and much more. Second, Gerson and her two assistants (Vera Whisman and Nancy Wohl) seem to have conducted wonderful interviews. But I felt the text at times was too cluttered with quotations, in the course of which the unique experiences and outlooks of individual men got lost. I would have liked her to utilize some in-depth case studies.

These are minor quibbles. Sociologists, other scholars, and the public at large should welcome *No Man's Land* for its good-sense approach and many insights about work, family, gender, and the lives of men in contemporary America.

*How Fathers Care for the Next Generation: A Four-Decade Study.* By John Snarey. Cambridge, Mass.: Harvard University Press, 1993. Pp. xii + 403. \$35.00.

Donald J. Hernandez  
U.S. Bureau of the Census

In *How Fathers Care for the Next Generation*, John Snarey assesses the contribution of fathers, as central and primary caregivers, to the development and adult accomplishments of their children. Guided by Erik H. Erikson's life-span model of psychosocial development and drawing upon a distinctive longitudinal database spanning three generations, Snarey presents sophisticated quantitative analyses and animates them with four qualitative "self-portraits" of a father and his son or daughter.

Snarey addresses several important questions: What are the child-rearing activities of fathers? What are the consequences later in life for

children and for fathers themselves? What influences fathers to adopt specific approaches to child rearing?

The book uses data from a longitudinal study of 500 delinquent boys and 500 matched comparison nondelinquent boys. Data were collected over four decades by social workers, internists, criminologists, psychoanalysts, and social psychologists. Snarey presents and analyzes results for 240 of the nondelinquent boys, the "fathers" in the book, for whom data were available for the entire four-decade period. Data include information on the fathers of the boys (the book's "grandfathers") and on the firstborn sons and daughters of the book's fathers. The study was conducted in Boston with boys from lower- and working-class families who were mainly Catholic and whose ethnic backgrounds included Russian, English, Irish, and Italian, but not African-American. The boys were born during the 1920s and 1930s and experienced the Great Depression during childhood.

Only a few of Snarey's fascinating and important conclusions can be cited here to exemplify the work. Fathers' child-rearing activities explained 16% of the variance in daughters' educational mobility and 8% of daughters' occupational mobility. Fathers whose daughters had higher educational and occupational achievement encouraged their daughters' physical-athletic development during childhood and adolescence, provided a low level of social-emotional support during childhood, and a high level of social-emotional support during adolescence. Snarey interprets these results through an Eriksonian lens, suggesting that the father's encouragement of physical-athletic activities may affirm the daughter's ability to compete with men beyond the family sphere.

For sons, fathers' child-rearing activities explained 11% of the variance in educational mobility and 6% of the variance in occupational mobility. Fathers of higher achieving sons fostered their sons' intellectual-academic activities during childhood and adolescence and their social-emotional and athletic-physical development during childhood only. Snarey's interpretation is that boys benefit from close identification with the father in all domains during childhood, but that during adolescence sons must distance themselves from fathers to achieve autonomy.

These and other conclusions and interpretations in the book are important for several reasons. First, although fathers as caregivers have been neglected until recently, Snarey's book strongly suggests that fathers are important, not through their absence, which is often the focus, but through their presence and through the positive effects they have on the development of their children. Second, by focusing on men whose origins are lower and working class, the book emphasizes that effective fathering is not the exclusive reserve of the middle class. The qualitative life stories richly and effectively portray the specific kinds of activities these fathers pursue in fostering the development of both their daughters and their sons.

Third, by empirically testing key aspects of Erikson's theoretical perspective and discussing how and why results from prior studies are similar or different, Snarey provides an integrated perspective to knowledge



on fathering and a starting point for future research. Finally, because fathering, and its causes and consequences, spans periods of decades across the life course, the book's use of longitudinal data with a corresponding time frame lends great weight to the conclusions and places it in the company of the handful of classic life-course studies that do the same (e.g., Glen H. Elder's *Children of the Great Depression* [Chicago: University of Chicago Press, 1974]).

The book has its limits, but the author is aware of these and thoroughly describes most of them. He points out that (1) the sample is far from representative, (2) data on mothering are extremely limited, and hence effects attributed to fathers may reflect the joint effect of mothering and fathering, and (3) results may hold true only for the historical period studied, since revolutionary changes have occurred in the social and economic context of children's lives during the past century. In addition, the empirical models are limited because important factors in the attainment process besides fathers' child-rearing practices were not measured. Despite these limitations, *How Fathers Care for the Next Generation* is a classic work that provides a key starting point for future research on fathering.

*Small Change: The Economics of Child Support.* By Andrea H. Beller and John W. Graham. New Haven, Conn.: Yale University Press, 1993. Pp. xxiv + 338. \$35.00.

Jay D. Teachman  
*Washington State University*

Recent figures indicate that one in five children is living in poverty, a greater proportion than for any other age group. Although marital disruption and nonmarital childbearing are not solely responsible for the vast number of children living in poverty, they are major contributors. Thus, it is critical to evaluate the role of noncustodial parents in providing support for their children. Unfortunately, we know little about how parents arrange for the well-being of their children when they do not share a household. Beller and Graham help to fill this void in our knowledge by providing us with important information about the antecedents and consequences of child support, the major source of economic contribution by noncustodial parents.

The book is based on a long-standing agenda carved out by the researchers. It is to the authors' credit, though, that the book is not just an exposition of their past findings. While the book uses Beller and Graham's past research, it extends it and puts it into a broader policy perspective. Thus, the book is the natural endpoint of an important research effort.

*Small Change* is timely, impressively researched, well reasoned, and well written. It is exactly the sort of book that will both foster academic research and set policy agendas for the coming decade. Using data from

multiple waves of the Current Population Survey (CPS), Beller and Graham use the first five chapters of their book to inform us about trends and differentials in child support in terms of both awards and receipts. Using a straightforward economic model (spiced with a few insights from demography) to guide their analyses, the authors present impressive technical work. Indeed, the book can stand alone as an example of how much useful information can be gleaned from a limited data source by using careful thought and reasonable assumptions.

Most of the figures given pertain to the period 1978–85, although data from earlier years are occasionally presented. During this period substantial change occurred with respect to the award and receipt of child support. While the complete picture is a bit more complex, Beller and Graham essentially find that although the likelihood of having a child-support award has increased over time, the real value of these awards has declined. With respect to receipt of child support, receipt rates have increased, while the actual value received has declined more than expected based on the decline in amount due. The authors carefully detail exceptions to these basic patterns and provide plausible explanations for why these trends have occurred.

While the first five chapters are strong, chapters 6–8 make the book more than a description of trends and differentials. In chapter 6, Beller and Graham attempt to examine the impact of state and federal policies on both award and receipt of child support. They find that many policies have little effect on child-support payments, although some subgroups such as never-married mothers are more sensitive to various policy options. In chapter 7, the authors discuss the economic consequences of child support. This chapter is at once the best and the weakest chapter in the book. It is the best in that it attempts to address child support within the context of an economic system. The payment and receipt of child support is not likely to happen without social and economic consequences for both parents and children. This chapter is also the weakest, because the CPS data are not well suited for an examination of the consequences of child-support payments.

Chapter 8 ends the book by providing a reasoned set of policy prescriptions. While many readers will not agree with the policy options chosen, Beller and Graham are careful to note why they opt for the choices they make. The chapter nicely wraps up the more technical work accomplished in the first 7 chapters and makes the book essential for policymakers. Most important, perhaps, the final chapter sets the stage for a consideration of the effects of the Family Support Act of 1988. As noted above, Beller and Graham consider the period 1978–85. It will prove interesting to obtain information about the years following passage of the Family Support Act.

*Small Change* is a book that will appeal to a wide audience. Though it is not written in a popular fashion, neither is it overly technical. The research and analysis are obviously competently done, and the book delves into policy in a rational manner.

# **OIL IN TROUBLED WATERS**

**Perceptions, Politics,  
and the Battle Over Offshore Drilling**

**WILLIAM R. FREUDENBURG  
AND ROBERT GRAMLING**

"This book is extremely well written, so that it reads like an interesting story, even as it chronicles the intermingling of a complex set of cultural, historical, political, economic, and technological factors. It is an excellent sociological analysis which challenges the reader's taken-for-granted assumptions about the nature of offshore drilling and carefully documents the reasons behind the different perceptions and experiences of California and Louisiana residents. The current status of offshore drilling is meaningfully framed by a cultural history of the political economy of the two states." — Jean Blocker, University of Tulsa

179 pages • \$16.95 paperback • ISBN 0-7914-1882-0

SUNY Press  
c/o CUP Services  
PO Box 6525  
Ithaca, NY 14851  
1-800-666-2211  
Domestic and Canada  
add \$3 for first copy,  
\$.50 each additional.  
NY State residents, add  
8% sales tax. Canada,  
add GST. VISA,  
MasterCard, American  
Express, Discover  
accepted.

**State University of New York Press**

## **BEYOND THE LAW** **Crime in Complex Organizations**

Edited by Michael Tonry and Albert J. Reiss, Jr.

Volume 18 in the *Crime and Justice* series focuses on the latest research and commentary on criminal misconduct occurring in U.S. corporations and government agencies, with special emphasis on savings and loan fraud, insider trading, nursing homes, environmental pollution, and other forms of "white collar crime."

Leading experts from a variety of disciplines investigate these antisocial and unlawful behaviors, and further explore the roles of self-regulation, administrative regulation, and civil and criminal sanctions in shaping organizational behavior.

1993    320 pp.    Cloth    \$35.00    ISBN: 0-226-80821-1  
                         Paper    \$19.95    ISBN: 0-226-80823-8

Order through your bookstore or directly from  
**The University of Chicago Press**  
11030 S. Langley Ave., Chicago, IL 60628  
Or call: (312) 568-1550

6/94

## NEW AND NOTEWORTHY

NEW EDITION

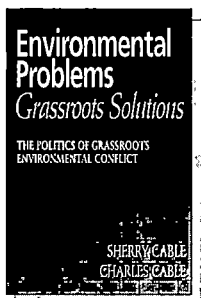
### SOCIETY AND TECHNOLOGICAL CHANGE

*Third Edition*

RUDI VOLTI, *Pitzer College*

Presents an overview and analysis of the causes and consequences of technological change ■ Considers social, economic, political, and cultural aspects ■ Facilitates understanding of subject matter by covering topics of particular interest to students ■ Provides an international perspective

January 1995 / 320 pp. / Paper / ISBN 0-312-09642-9



### ENVIRONMENTAL PROBLEMS/GRASSROOTS SOLUTIONS

**The Politics of Grassroots Environmental Conflict**

SHERRY CABLE, *University of Tennessee-Knoxville*  
CHARLES CABLE

A narrative text that examines how sociologists identify, analyze, and address political and economic issues of environmental conflict

■ Presents environmental problems as social,

not technical, problems ■ Fills a gap among textbooks for environmental sociology courses ■ Contains an environmental science primer for non-hard science students and instructors

Just Published! / 176 pp. / Paper / ISBN 0-312-08142-1

### COUNTERCULTURES

**A Sociological Analysis**

WILLIAM W. ZELLNER, *East Central University*

Examines six countercultures – Skinheads, Ku Klux Klan, Survivalists, Satanic Cults, the Church of Scientology, and the Unification Church ■ Author's participant observation with groups connects methodology to actual research ■ An innovative text written for an academic audience

Just Published! / 218 pp. / Paper / ISBN 0-312-08084-0



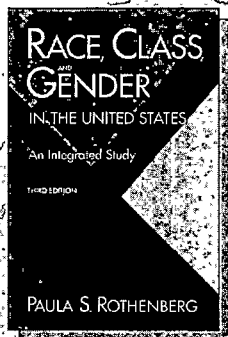
St. Martin's Press • College Division

175 Fifth Avenue, New York, NY 10010

1-800-446-8923

Fax: (212)780-0115

# FROM ST. MARTIN'S PRESS



NEW EDITION

## RACE, CLASS, AND GENDER IN THE UNITED STATES

An Integrated Study

*Third Edition*

PAULA ROTHENBERG, *The  
William Paterson College of New Jersey*

Examines issues of race, gender, and sexuality within the context of class society in the United States ■ Employs a cross-disciplinary approach with readings from scholarly essays, non-fiction, fiction, and poetry ■ Readings are interesting and relevant, enabling instructors to initiate lively discussions among students ■ Allows students to better understand their ordinary experiences within a conceptual framework

**Just Published!**

**528 pp. / Paper / ISBN 0-312-09652-6.**

NEW EDITION

## THE ELEMENTS OF SOCIAL SCIENTIFIC THINKING

*Sixth Edition*

KENNETH HOOVER and TODD DONOVAN,  
*Western Washington University*

A basic introduction to the vocabulary, concepts, and objectives of social scientific thought ■ Readable and engaging style provides students with a common-sense, rather than technical, approach to grasping major concepts ■ Accessible to students with no prior statistical background ■ Cross-disciplinary examples will interest students from a wide variety of areas in the social sciences

**November, 1994 / 224 pp. / Paper**

**ISBN 0-312-09643-7**



**St. Martin's Press • College Division**

175 Fifth Avenue, New York, NY 10010

1-800-446-8923

Fax: (212) 780-0115

S T . M A R T I N ' S P R E S S

## NEW AND NOTEWORTHY FROM ST. MARTIN'S PRESS



### RIGHTS AND THE COMMON GOOD

AMITAI ETZIONI, *The George Washington University*

Outlines the communitarian perspective ■ Provides specific examples of what communitarian thinking means for politics, culture, and economics ■ Articles and case studies encourage students to think across interdisciplinary lines and draw their

own conclusions on issues ■ Examines the foundations as well as the contemporary focus of communitarian thought and provides a critical analysis of individual rights and responsibilities

November 1994 / 288 pp. / Paper  
ISBN 0-312-08968-6

NEW EDITION

### DEMOCRACY FOR THE FEW

*Sixth Edition*

MICHAEL PARENTI

Offers students and instructors a compelling and well-documented critique of American government  
■ Examines the ways in which government serves the interests of corporations, the military-industrial complex, and wealthy citizens ■ Contains new material on crime, corporate economic crisis and recession  
■ Includes an updated media chapter and criticisms of the Clinton administration

Just Published!  
384 pp. / Paper / ISBN 0-312-05233-2



St. Martin's Press • College Division

175 Fifth Avenue, New York, NY 10010

1-800-446-8923

Fax: (212) 780-0115

## Leading Journal

*acta sociologica is one of the largest European sociology journals with more than 3000 subscribers. The journal provides rapid publication of high-quality articles carefully selected by a prestigious review committee. The journal has been published since 1955 by the Scandinavian Sociological Association. Issued quarterly.*

### Editor:

Peter Hedström, Stockholm, Sweden.

Send to: Scandinavian University Press, P.O. Box 2959 Tøyen, N-0608 Oslo, Norway.

U.S. Office: Scandinavian University Press, 200 Meacham Ave., Elmont, NY 11003, USA.

### Please enter my subscription to **acta sociologica**

Starting with number 1, 1994, ISSN 0001-6993, 4 issues per year. Postage included. Airspeed delivery worldwide. Prepayment required.

### SUBSCRIPTION RATES

- 1 Private subscription, NOK 335 (approx \$50), SEK 340 in Sweden, NOK 310 in the other Nordic countries.
- 1 Institutional subscription, NOK 695 (approx \$105), SEK 710 in Sweden, NOK 645 in the other Nordic countries.
- 1 Please send me a **FREE** sample copy of **acta sociologica**

### PLEASE CHECK ONE BOX:

- 1 Send invoice ☐ Cheque enclosed ☐ VISA ☐ AmEx ☐ Euro/Mastercard ☐ Diners

Card No.  Exp. date:

Make cheque payable to Scandinavian University Press and stamp it to your order form

Signature: \_\_\_\_\_

Name/address: (BLOCKLETTERS) \_\_\_\_\_

### Representative articles from recent volumes

Mark Granovetter:  
Economic Institutions as Social  
Constructions: A Framework  
for Analysis.

Robert Erikson, John H.  
Goldthorpe:  
Individual or family? Results  
from Two Approaches to Class  
Assignment.

Douglas A. Hibbs:  
Market Forces, Trade Union  
Ideology, and Trends in  
Swedish Wage Dispersion.

Gudmund Hernes:  
The Dilemmas of Social  
Democracies.

Göran Thornborn:  
Cultural Belonging, Structural  
Location, and Human Action.

# CALIFORNIA SOCIOLOGY

T. Dunbar Moodie

## **Going for Gold**

**Men, Mines, and Migration**

With Vivienne Ndatshe

"An indispensable look at the working conditions, social lives, and collective action of black miners. . . . [Moodie] reveals an extraordinary world at the edge of hope and desperation."

—Charles Tilly, *The New*

*School for Social Research*

*Perspectives on Southern Africa*

\$45.00 cloth, \$16.00 paper, illustrated

Beth Roy

## **Some Trouble with Cows**

**Making Sense of Social  
Conflict**

"Extremely important. . . . In an unpretentious fashion, Roy challenges the traditional wisdom on communal riots and raises bold new questions about how they might be understood."

—Amrita Basu, author of

*The Two Faces of Protest*

"A brilliant contribution to the study of group conflict."

—Bob Blauner, author of

*Black Lives, White Lives*

\$40.00 cloth, \$15.00 paper

James Smoot Coleman

## **Nationalism and Development in Africa**

**Selected Essays**

Edited by Richard L. Sklar

Coleman was the leading theorist of his time in African political studies. These essays represent the evolution of his thought from deep insight into African nationalism to a refined theory of modernization.

\$50.00 cloth, \$20.00 paper, illustrated

Hilton L. Root

## **The Fountain of Privilege**

**Political Foundations of  
Markets in Old Regime  
France and England**

"Political economy comes of age in this book. [It] practices what has so far merely been advocated, the melding of history, economics, and political science. . . . A masterpiece of social science."

—Donald N. McCloskey,

author of *Second Thoughts*

*California Series on Social Choice and  
Political Economy*, \$45.00 cloth

UNIVERSITY OF CALIFORNIA PRESS



# CALIFORNIA SOCIOLOGY

## NEW IN PAPERBACK

Alan Wolfe

### **The Human Difference**

Animals, Computers, and the Necessity of Social Science  
"Wolfe takes on sociology, artificial intelligence research, ecology and post-modernism."

—*The Great Plains Sociologist*

\$15.00 paper

Alejandro Portes &  
Alex Stepick  
**City on the Edge**

The Transformation of Miami

"Poses fascinating questions. . . . Makes a case for the importance of political capital." —*Contemporary*

*Sociology*

\$15.00 paper, illustrated

Philip Selznick

### **The Moral Commonwealth**

Social Theory & the Promise of Community

"Sociology in the grand tradition: sweeping, authoritative, and addressed to the most fundamental problems of the human condition."

—*Contemporary Sociology*

A Centennial Book, \$18.00 paper

Patricia A. Turner  
**I Heard It Through the Grapevine**

Rumor in African-American Culture  
"Illuminating. . . . Her work opens up new perspectives on black culture." —*New York Times Book Review*

\$12.00 paper, illustrated

Merry White  
**The Material Child**

Coming of Age in Japan and America  
*With a New Preface*

"An exemplary cross-cultural study of teenagers in the U.S. and Japan."

—*Publishers Weekly*

\$12.00 paper, illustrated

Mary C. Brinton  
**Women and the Economic Miracle**

Gender and Work in Postwar Japan  
"A precious contribution to our understanding of Japanese society and economy."

—*Monumenta Nipponica*

*California Series on Social Choice and Political Economy*, \$15.00 paper

Gene Burns  
**The Frontiers of Catholicism**

The Politics of Ideology in a Liberal World

"A work of sociology, but with a broad historical sweep."

—*Times Literary Supplement*

*A Notable Book of the Year, 1993, New York Times Book Review, New Directions in Cultural Analysis*, \$15.00 paper

At bookstores or order  
toll-free 1-800-822-6657.

UNIVERSITY OF CALIFORNIA PRESS

NOW AVAILABLE

## **Equal Employment Opportunity Labor Market Discrimination and Public Policy**

Paul Burstein (*University of Washington, Seattle*), editor

1994. xii + 444 pages. References, index.

0-202-30475-2 Cloth \$54.95. 0-202-30476-0 Paper \$25.95

This collection includes the work of major scholars in history, economics, sociology, politics, and law. It presents important debates about EEO and its effects, and places the American situation into international context.

## **Why Are Some People Healthy and Others Not? The Determinants of Health of Populations**

Robert G. Evans, Morris L. Barer (*both of University of British Columbia*), and Theodore R. Marmor (*Yale University*), editors

1994. Approx. 384 pp. References, index.

0-202-30489-2 Cloth \$52.95. 0-202-30490-6 Paper \$23.95

"This book is must reading for anyone interested in how we can invest to improve population health."

— *Jonathan E. Fielding, UCLA Schools of Public Health and Medicine*

## **The Psychosocial Interior of the Family (Fourth Edition)**

Gerald Handel (*The City University of New York*) and Gail G. Whitchurch (*Indiana University-Purdue University at Indianapolis*), editors

1994. xxx + 674 pages. References, index.

0-202-30493-0 Cloth \$63.95. 0-202-30494-9 Paper \$32.95

This volume contains the best available interdisciplinary work on the social psychology of the family. More than half of the selections are new to this 4th edition, which incorporates a variety of theoretical and research perspectives on the family and interpersonal relations.

## **Parents' Jobs and Children's Lives**

Toby L. Parcel and Elizabeth G. Menaghan

(*both of The Ohio State University*)

1994. xiv + 214 pages. References, index.

0-202-30483-3 Cloth \$39.95. 0-202-30484-1 Paper \$18.95

This book considers the effects of parental working conditions on children's cognition and social development. It also investigates how parental work affects the home environment that parents create for their children and how these home environments influence the children directly.

*Prices subject to change.*



**Aldine de Gruyter** (*a division of Walter de Gruyter, Inc.*)

200 Saw Mill River Road · Hawthorne, NY 10532 · (914) 747-0110



0002-9602(199409)100:2;1-#

# AJS

American

Journal

Sociology

Volume 100 Number 3

November 1994

*British Subjugation of the Irish Cotton Industry*——O'Hearn

*Sheltered Labor Markets in Israel*——Lewin-Epstein and  
Semyonov

*Economic Dependency and the Division of Labor*——Brines

*Effects of Occupational Characteristics on Wages*——Kilbourne,  
England, Farkas, Beron, and Weir

*Competition between Organizational Populations*——Carroll and  
Harrison

*Stereotypes and Segregation in Neighborhoods*——Farley,  
Steeh, Krysan, Jackson, and Reeves

The University of Chicago Press

MARTA TIENDA, Editor

JIM DAVIS, FRED KNISS, SUSAN E. MAYER, JEFFREY MORENOFF, EMILIO PARRADO, and ROBERT J. SAMPSON, Associate Editors

MARY C. BRINTON, Associate Editor, Book Review

GRACE KAO, Assistant Book Review Editor

STEPHEN B. PLANK, MICHAEL J. REAY, DAVID A. SMILDE, and ALFORD A. YOUNG, JR., Book Review Editorial Board

SUSAN ALLAN, Managing Editor

LAUREN FORD-TAGGART and CLAIRE JAMES, Editorial Assistants

**Consulting Editors** PAUL D. ALLISON • PETER BEARMAN • ROBERT J. BURSİK, JR. • GLENN R. CARROLL • JOHN CASTERLINE • MARK CHAVES • KAREN COOK • NANCY DAVIS • NANCY DENTON • LAUREN EDELMAN • ROBERT R. FAULKNER • SCOTT FELD • CLAUDE FISCHER • ROBERTO FRANZOSI • NOAH FRIEDKIN • MARK GRANOVETTER • LARRY GRIFFIN • DOUGLAS HECKATHORN • BARBARA HEYNS • GARY LAFREE • MARGARET MOONEY MARINI • J. MILLER MCPHERSON • JAMES MONTGOMERY • DANIEL MONTI • JOEL PODOLNY • DUDLEY POSTON • CHARLES RAGIN • CECILIA RIDGEWAY • JOACHIM SINGELMANN • C. MATTHEW SNIPP • GILLIAN STEVENS

**International Consulting Editors** JEAN-FRANÇOIS AMADIEU (France) • NORMAN BRAUN (Switzerland) • ANDREAS DIEKMANN (Switzerland) • ULF HANNERZ (Sweden) • PETER HEDSTROM (Sweden) • JOHANNES HUININK (Germany) • NOAH LEWIN-EPSTEIN (Israel) • TOM A. B. SNIJDERS (The Netherlands) • HAYA STIER (Israel) • THOMAS VOSS (Germany) • JEROEN WEESIE (The Netherlands)

**Editorial Board** ANDREW D. ABBOTT • GARY S. BECKER • CHARLES E. BIDWELL • DONALD J. BOGUE • TERRY N. CLARK • JAMES S. COLEMAN • JOHN L. COMAROFF • ROGER V. GOULD • WENDY GRISWOLD • PHILIP M. HAUSER • EVELYN KITAGAWA • EDWARD O. LAUMANN • DONALD N. LEVINE • DOUGLAS S. MASSEY • WILLIAM L. PARISH • MOISHE POSTONE • EDWARD SHILS • GEORGE P. STEINMETZ • EÖSS M. STOLZENBERG • FRED L. STRODTBECK • GERALD D. SUTTLES • LINDA J. WAITE • WILLIAM JULIUS WILSON • KAZUO YAMAGUCHI

THE AMERICAN JOURNAL OF SOCIOLOGY (ISSN 0002-9602) is published bimonthly in July, September, November, January, March, and May by The University of Chicago Press, Journals Division, 5720 S. Woodlawn Ave., Chicago, Illinois 60637. Subscription rates, U.S.A.: institutions, 1 year \$87.00; individuals, 1 year \$39.00. Student subscription rate, USA: 1 year \$27.00 (photocopy of valid student ID must accompany subscription). ASA and BSA members, 1 year \$34.00. All other countries add \$9.00 for each year's subscription to cover postage. Canadian subscribers add 7% GST. Subscription agent for Japan: Kinokuniya Company, Ltd. Single copy rates: institutions \$13.35, individuals \$6.25. Volumes 1-90 available from Schmidt Periodicals GmbH, Dettendorf, D-8201 Bad Feilnbach 2, Germany. All volumes are available from University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106; and Kraus Reprint and Periodicals, Route 100, Millwood, New York 10546. Subscriptions are payable in advance. Subscriptions will be entered to start with the first issue to be published after receipt of order. **Postmaster:** Send address changes to *American Journal of Sociology*. The University of Chicago Press, Journals Division, P.O. Box 37005, Chicago, Illinois 60637.

ADVERTISING space in THE AMERICAN JOURNAL OF SOCIOLOGY is available, as is rental of its subscriber list. For information and rates, please contact the advertising sales staff, The University of Chicago Press, Journals Division, 5720 South Woodlawn Avenue, Chicago, Illinois 60637. Advertising and list rental is limited to material of scholarly interest to our subscribers.

*Copying beyond Fair Use.* The code on the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made beyond those permitted by Section 107 or 108 of the U.S. Copyright Law provided that copies are made only for personal or internal use or for the personal or internal use of specific clients and provided that the copier pay the stated per-copy fee through the Copyright Clearance Center, Inc. Operations Center, 27 Congress St., Salem, Massachusetts 01970. *To request permission for other kinds of copying*, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale, kindly write to Permissions Department, The University of Chicago Press, 5801 S. Ellis Ave., Chicago, Illinois 60637. *If no code appears* on the first page of an article, permission to reprint may be obtained only from the author.

Second-class postage paid at Chicago, Illinois, and at additional mailing offices.

© 1994 by The University of Chicago. All rights reserved.

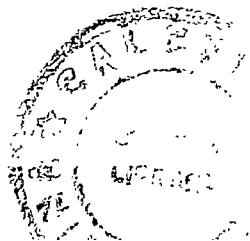
The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI Z39.48-1984. (∞)

**CONTENTS**

- 587 Innovation and the World-System Hierarchy: British Subjugation of the Irish Cotton Industry, 1780–1830  
DENIS O'HEARN
- 622 Sheltered Labor Markets, Public Sector Employment, and Socio-economic Returns to Education of Arabs in Israel  
NOAH LEWIN-EPSTEIN AND MOSHE SEMYONOV
- 652 Economic Dependency, Gender, and the Division of Labor at Home  
JULIE BRINES
- 689 Returns to Skill, Compensating Differentials, and Gender Bias: Effects of Occupational Characteristics on the Wages of White Women and Men  
BARBARA STANEK KILBOURNE, PAULA ENGLAND, GEORGE FARKAS, KURT BERON, AND DOROTHEA WEIR
- 720 On the Historical Efficiency of Competition between Organizational Populations  
GLENN R. CARROLL AND J. RICHARD HARRISON
- 750 Stereotypes and Segregation: Neighborhoods in the Detroit Area  
REYNOLDS FARLEY, CHARLOTTE STEEH, MARIA KRYSAN, TARA JACKSON, AND KEITH REEVES
- 781 Organizing the Boys of Summer: The Evolution of U.S. Minor-League Baseball, 1883–1990  
KENNETH C. LAND, WALTER R. DAVIS, AND JUDITH R. BLAU

**Book Reviews**

- 814 *Culture and Enchantment* by Mark A. Schneider  
CHANDRA MUKERJI



- 817 *The Rise of Early Modern Science: Islam, China, and the West*  
by Toby E. Huff  
BENJAMIN A. ELMAN
- 819 *The Sources of Social Power. Volume 2: The Rise of Classes and  
Nation-States, 1760–1914* by Michael Mann  
CHRIS SPARKS
- 821 *Max Weber's Comparative-Historical Sociology* by Stephen Kal-  
berg  
KEITH TRIBE
- 822 *Power without Force: The Political Capacity of Nation-States* by  
Robert W. Jackman  
MICHAEL BARNETT
- 824 *The Decomposition of Sociology* by Irving Louis Horowitz  
DAVID G. WAGNER
- 826 *State and Society in Contemporary Korea*, edited by Hagen Koo  
GI-WOOK SHIN
- 828 *Work and Inequality in Urban China* by Yanjie Bian  
TAK CHUEN LUK
- 829 *State and Business in Modern Turkey: A Comparative Study* by  
Ayse Bugra  
RODERIC AI CAMP
- 831 *The Sicilian Mafia: The Business of Private Protection* by Diego  
Gambetta  
PETER KOLLOCK
- 833 *Dimensions of Law in the Service of Order: Origins of the Federal  
Income Tax, 1861–1913* by Robert Stanley  
JOHN L. CAMPBELL
- 835 *Conflict, Competition, or Cooperation? Dilemmas of State Educa-  
tion Policymaking* by Douglas M. Abrams  
PETER W. COOKSON, JR.
- 837 *School Choice: The Struggle for the Soul of American Education*  
by Peter W. Cookson, Jr.  
STEPHEN B. PLANK
- 839 *Parents, Their Children, and Schools*, edited by Barbara Schnei-  
der and James S. Coleman  
DORIS R. ENTWISLE

- 841 *Painful Inheritance: Health and the New Generation of Fatherless Families* by Ronald J. Angel and Jacqueline L. Angel  
JOHN R. WEEKS
- 843 *Gray Agendas: Interest Groups and Public Pensions in Canada, Britain, and the United States* by Henry J. Pratt  
HUGH HECLLO
- 845 *Supermarkets Transformed: Understanding Organizational and Technological Innovations* by John P. Walsh  
PETER BIRKELAND
- 847 *Checkerboard Square: Culture and Resistance in a Homeless Community* by David Wagner  
J. WILLIAM SPENCER
- 848 *Discourse and Destruction: The City of Philadelphia versus MOVE* by Robin Wagner-Pacifici  
MARC W. STEINBERG
- 851 *Dual Attraction: Understanding Bisexuality* by Martin S. Weinberg, Colin J. Williams, and Douglas W. Pryor  
PAULA C. RUST
- 854 **Book Notes**

## IN THIS ISSUE

DENIS O'HEARN is lecturer in sociology at Queen's University of Belfast and associate professor of sociology at University of Wisconsin—Madison. He has written articles on Irish and Jamaican industrialization, hegemony and industrial ascent in the world-system, and other topics in the sociology of economic change. He is currently working on the comparative history of industrialization and peripheralization in Ireland.

NOAH LEWIN-EPSTEIN is chair of the Department of Sociology and Anthropology, Tel Aviv University. His major area of interest is inequality, and his research focuses on structural sources of inequality in the labor market and in health and illness. He has coauthored with Moshe Semyonov *Hewers of Wood and Drawers of Water: Noncitizen Arabs in the Israeli Labor Market* (ILR Press, 1987) and *Arabs in Israel's Economy: Patterns of Ethnic Inequality* (Westview Press, 1993).

MOSHE SEMYONOV is professor of sociology and labor studies at Tel Aviv University and the director of the Golda Meir Institute for Labor and Social Research. He is also professor of sociology at the University of Illinois at Chicago. His current research focuses on structural sources of ethnic, gender, and socioeconomic inequality and on the status of immigrants in the Israeli labor market.

JULIE BRINES is assistant professor of sociology at the University of Washington. Her interests center on how modes of exchange and interaction between men and women generate broader patterns of gender inequality. Recent research examines the effects of gender role specialization on the stability of married and cohabiting unions (with Kara Joyner) and differences between husbands and wives in expected well-being upon divorce (with Joyner and Isik Aytac). Her current research focuses on gender, perceptions of opportunity, and decision making in relationships.

BARBARA KILBOURNE is assistant professor of sociology at Vanderbilt University. Her research focuses on using quantitative methods to study women and work, with special attention to job-family linkages, occupational sex segregation, measuring demands of occupations, and interactions between gender and race.

PAULA ENGLAND is professor of sociology at the University of Arizona. She is interested in the devaluation of occupations because of their association with women; how wage trajectories within a career differ across types of jobs; and the dialogue between economic, sociological, and feminist theories as they apply to the household and employment.

GEORGE FARKAS is professor of sociology and political economy and director of the Center for Education and Social Policy at the University of Texas at Dallas (UTD). His current research focuses on the inheritance of poverty and the interventions designed to reduce it. He has designed and implemented one such intervention, Reading One—One: The UTD Structured Tutoring Program. During 1994–95, this program will provide more than 130,000 hours of one-on-one instruction to more than 2,000 low-skill readers in 30 Dallas elementary schools.



KURT J. BERON is associate professor of economics and associate dean, School of the Social Sciences, at the University of Texas at Dallas. His research is in applied microeconomics, with an emphasis on topics related to public finance, families, and education. His empirical work focuses on understanding situations that involve unobservable and latent variables.

DOROTHEA WEIR received her Ph.D. in political economy from the University of Texas at Dallas. She is currently a senior evaluator in the office of evaluation and testing within the Dallas Independent School District. Her research focuses on family and school resources and their effects on students' achievement.

GLENN R. CARROLL is the Paul J. Cortese Professor of Management at the Haas School of Business, University of California at Berkeley. His primary research interests are in organizational sociology, especially organizational ecology. With Michael T. Hannan, he recently edited *Organizations in Industry: Strategy, Structure and Selection* (Oxford University Press).

J. RICHARD HARRISON is associate professor and associate dean at the School of Management at the University of Texas at Dallas. His research interests include corporate governance and control and computer simulations of organizational processes. He is currently studying the effects of the institutional investor on shareholder rights provisions in corporate charters and bylaws.

REYNOLDS FARLEY is a research scientist at the University of Michigan's Population Studies Center and a professor of sociology. He is currently editing a two-volume summary of findings from the census of 1990, *State of the Union: America in the '90s*, sponsored by the Russell Sage Foundation. His work investigates the causes and consequences of racial differences in the United States.

CHARLOTTE STEEH is director of the Detroit Area Study in the Department of Sociology at the University of Michigan. As the faculty investigator for the 1994 Detroit Area Study, she is examining the relationship of education to attitudes on controversial issues, such as affirmative action, doctor-assisted suicide, abortion, and homosexuality.

MARIA KRYSAN is a doctoral student in sociology at the University of Michigan. She is currently working on her dissertation on the effects of mode-of-survey administration on responses to racial attitude questions.

TARA D. JACKSON is a postdoctoral fellow with the Joint Center for Housing Studies and the A. Alfred Taubman Center for State and Local Government at the John F. Kennedy School of Government. Her dissertation is an empirical examination of the effect of whites' racial and social attitudes on their residential preferences. The study also examines the effects of blacks' perceptions of racial and housing discrimination on their willingness to pioneer integration. Related research interests include urban inequality, efficacy and territoriality, trends in residential redistribution, and survey research methodology.

KEITH REEVES is assistant professor of public policy at the John F. Kennedy School of Government, Harvard University. His research interests are in the areas of race, politics, and public policy; comparative ethnic and racial politics; and survey research and methodology.

KENNETH C. LAND is John Franklin Crowell Professor of Sociology and department chair at Duke University. His research interests include demographic and social statistical models and methods, aging and active life expectancy, population forecasting, micromodels of criminal careers, multilevel models of criminal victimization, and the organizational evolution of cultural institutions. His current research with Judith R. Blau examines structured mutualism, social conflict, and institutional embeddedness processes in the population dynamics of baseball teams, religious denominations, junior colleges, and newspapers.

WALTER R. DAVIS is a Ph.D. candidate at the University of North Carolina at Chapel Hill. His dissertation investigates the impact of organizational, occupational, and national-level characteristics on workers' autonomy and control. He continues his work on identification of confirmatory factor analysis models and, with Kenneth A. Bollen, he is currently working on identification of latent variable models with causal indicators.

JUDITH R. BLAU teaches at the University of North Carolina at Chapel Hill. Her collaborative research involves across-time studies of organizations and a study of educational outcomes for students from junior colleges and historically black colleges. A recent book is *Social Contracts and Economic Markets*.

## Information for Contributors

**Editorial Procedures:** All papers deemed appropriate for the *AJS* are sent out anonymously to readers. The editors rely heavily on the judgments of those readers, although they are not bound by them. To protect anonymity, only the title should appear on the manuscript. Attach a cover page with the title of the manuscript, your name, and your affiliation. All identifying references and footnotes should appear on a separate page. Manuscripts are accepted for publication subject to the understanding that the *AJS* has the right of first publication. Submission of a manuscript to the *AJS* is taken to indicate the author's commitment to publish in this *Journal*. No paper known to be under consideration by any other journal will be reviewed by the *AJS*. In addition, the *AJS* is not a suitable vehicle for materials published elsewhere, in whole or in part. Upon publication, all rights, including subsidiary rights, are owned by the University of Chicago Press. The author retains the right to use his or her article without charge in any book of which he or she is the author or editor after it has appeared in the *Journal*.

**Manuscript Acceptance Policy:** While it is our policy to require the assignment of copyright on most journal articles and review essays, we do not usually request assignment of copyright for other contributions. Although the copyright to such a contribution may remain with the author, it is understood that, in return for publication, the *Journal* has the nonexclusive right to publish the contribution and the continuing right, without limit, to include the contribution as part of any reprinting of the issue and/or volume of the *Journal* in which the contribution first appeared by any means and in any format, including computer-assisted storage and readout, in which the issue and/or volume may be reproduced by the publisher or by its licensed agencies.

## Preparation of Copy

1. Type *all* copy—including indented matter, footnotes, tables, and references—*double spaced*, allowing generous margins at the top, bottom, and sides of page. Please do not break words at ends of lines or justify right-hand margins. Do not use proportional spacing fonts. Indicate italics by underlining only. Number all footnotes, beginning with the acknowledgment note as number 1. *Provide a word count on the cover page of the manuscript.*

2. Begin each table on a separate page. Refer to each table in numerical order in the text. Tables should not contain vertical lines or more than 20 two-digit columns or the equivalent.

3. Clarify all mathematical symbols (e.g., Greek letters) with words in the margins of the manuscript.

4. Original or glossy prints of professionally drawn figures will be required if manuscript is accepted.

5. Include a brief abstract (not more than 100 words) summarizing the findings.

6. Submit *five copies* of the manuscript and abstract, on white paper. Manuscripts should be addressed to the Editor of the AMERICAN JOURNAL OF SOCIOLOGY, 5835 South Kimbark, Chicago, Illinois 60637. *Manuscripts are not returned to authors.* Enclose a self-addressed stamped postcard to obtain acknowledgment of manuscript receipt. No other acknowledgment will be sent.

7. Each article submitted to the *AJS* must be accompanied by a check or

money order for \$15.00, payable to The University of Chicago Press in U.S. currency or its equivalent. Papers will not be reviewed until this fee has been paid. The submission fee will be waived for papers solely by student authors. Submissions from students must be accompanied by a faculty member's certification of their student status. Citizens of countries with restrictions on the export of U.S. dollars may request waiver of the submission fee.

**Format of References in Text:** All references to monographs, articles, and statistical sources are to be identified at the appropriate point in the text by last name of author, year of publication, and pagination where appropriate, all within parentheses. Footnotes are to be used only for substantive observations. Specify subsequent citations of the same source in the same way as the first one; do not use "ibid.," "op. cit.," or "loc. cit."

1. When author's name is in the text: Duncan (1959). When author's name is not in text: (Gouldner 1963).

2. Pagination follows year of publication: (Lipset 1964, pp. 61-65).

3. For more than three authors, use "et al." For institutional authorship, supply minimum identification from the beginning of the complete citation: (U.S. Bureau of the Census 1963, p. 117).

4. With more than one reference to an author in the same year, distinguish them by use of letters (*a*, *b*) attached to the year of publication: (1965*a*).

5. Enclose a series of references with a single pair of parentheses, separated by semicolons: (Duncan 1959; Gouldner 1963; Lipset 1964, pp. 61-65).

6. Format for references to machine-readable data files is:

Davis, James Allan. 1978. GSS (General Social Survey). NORC ed. Chicago: NORC. Distributed by Roper Public Opinion Research Center, New Haven, Conn.

**Format of References:** List all items, including machine-readable data files (MRDF), alphabetically by author (providing the full list of multiple authors) and, within author(s), by year of publication, in an appendix titled "REFERENCES." For examples, see text of articles in this issue.

(Rev. 1/93)

# Innovation and the World-System Hierarchy: British Subjugation of the Irish Cotton Industry, 1780–1830<sup>1</sup>

Denis O'Hearn

*Queen's University of Belfast*

Analyses of innovation generally assume that it is a local or national process. This article uses world-system concepts and the case of the Irish and English cotton industries to argue that innovations are not intrinsically local but must be *localized*. Irish and English customs data and historical analysis are used to demonstrate how the localization of innovation around Manchester involved the peripheralization of the Irish industry by Britain. This peripheralization involved, first, the destruction of Irish spinning and the subjugation of Irish weaving and, eventually, the transformation of Irish textile activity into linen. It is further argued that innovation (Schumpeter's *innovative response*) is the defining characteristic of core activities, while *adaptive response* characterizes semiperipheral industry.

The theory of innovation and world-system analysis are related fields that could be strengthened by dialogue. World-system analysis fills a gap in the theory of innovation where, with few exceptions, authors assume that innovation is a localized process—the result of entrepreneurial leadership (Schumpeter 1939, pp. 102–4) or *national* systems of innovation

<sup>1</sup> I would like to thank Andrew Schrank, members of the training seminar in the Sociology of Economic Change in the University of Wisconsin, and the *AJS* reviewers for their valuable comments on earlier drafts. My arguments were also strengthened by conversations with Vincent Tucker about Irish revisionism, Roberto Franzosi about historical and quantitative methods, and Stephen Bunker about access to raw materials and industrial ascent. Access to data was graciously and helpfully provided by the staff of the archives section of the National Library of Ireland in Dublin. Support for this research was provided by the Department of Sociology at University College Dublin, the Graduate School of the University of Wisconsin, and the Fulbright Foundation. Correspondence may be sent to Denis O'Hearn, Department of Sociology, Queen's University of Belfast, Belfast BT7, Northern Ireland.

(Freeman 1987).<sup>2</sup> From a world-system standpoint, however, innovation is not inherently local, but is *localized* through a series of global strategies to capture innovations and suppress them elsewhere. No doubt, the national environment for innovation—infrastructures, human knowledge, and capital resources, to quote a recent list (Porter 1990)—is important, but global power to achieve cheap and stable access to raw materials, markets, and human labor is necessary for such national systems of innovation to succeed. Suppressing innovation in the semiperiphery stifles potential competition just as it frees semiperipheral labor for subordinate activities that are useful to the core. Thus, world-system concepts and a theory of the *localization of innovation* can be mutually supportive.

On the other hand, world-system concepts such as *core*, *periphery*, and *semiperiphery*—the basis of the world-system hierarchy—are seriously undertheorized. The distinction between core and semiperiphery is especially unclear. Moreover, without a better conceptualization of what constitutes “coreness,” it is difficult to analyze how core regions maintain their position in the hierarchy. In this article I use the concept of innovation not simply as the characteristic that distinguishes core from semiperipheral economic activities, but as a process that must be localized in core regions if those regions are to maintain their dominant position in the world-system hierarchy.<sup>3</sup>

In exploring relations between the core and semiperiphery, I am not concerned with the obvious world-system distinctions—microprocessors and bananas—but with the murkier boundary between core and semiperipheral industry. I will analyze the connections between semiperipherality, coreness, and innovation by using an important case study: the Irish and English cotton industries of the late 18th and early 19th centuries. The case of British and Irish textiles is apt because both countries, a colonizing economic ascendant and its colonized periphery, engaged in the same broad industrial sectors for a time after 1780. From 1780 to 1825 agents in both countries attempted to industrialize around cotton, which was the most dynamic industry of the period and eventually the largest. The case is also an important one because the English-centered

<sup>2</sup> Although I refer to the “theory of innovation,” I am not particularly concerned here with explaining why certain innovations or inventions arise where and when they do. Rather, my concern is who captures and applies innovations and how they do this. Schumpeter himself makes the distinction between inventions, innovations, and the application of innovations, and he considers the final step of application not only to be distinct from the first two but also to be the most important (1939, pp. 72–129).

<sup>3</sup> The importance of innovation as a characteristic of coreness has been pursued briefly by Arrighi and Drangel (1986) in their attempt to explain the semiperipheral zone. The present analysis builds on their work.

industrial revolution is regularly cited as evidence for nation-centered studies of innovation despite the importance of empire to British success.

The economic history literature generally treats Irish and British "cotton" as equivalents, explaining the eventual Irish failure by internal shortcomings that have recently come to be associated with "national" systems of innovation—lack of entrepreneurial spirit, failure to modernize, and lack of capital (Cullen 1972). I pursue a different argument. Irish cotton was peripheralized by Britain, while British cotton became the leading sector at the center of its 19th-century domination of the world-system. Two industrial sectors that seem at first to be equivalents are, on closer examination, distinct. The industry of the colonizer is *core* and that of the colonized, *semiperipheral*. Furthermore, while innovation distinguishes semiperipheral from core industries, it is also a process. An exploration of how core regions capture innovations, and even extinguish innovative impulses in semiperipheral regions, is crucial to our understanding of how the world-system hierarchy is reproduced.<sup>4</sup>

#### CORE INDUSTRY, SEMIPERIPHERAL INDUSTRY, AND INNOVATION

The structure of the capitalist world-system is a well-defined hierarchy of rich, not so poor, and poor regions rather than a continuum from poor to rich (Arrighi and Drangel 1986). It is generally assumed that the level of material well-being in a country or zone is a result of that area's economic activities—how the inhabitants produce, appropriate, or are exploited of "want-satisfying material means" (Polanyi) or "use values" (Marx). Yet we have no precise definition of what distinguishes semiperipheral from core economic activities and, therefore, precisely why one set of activities is more conducive to increasing a region's average level of material well-being.

World-system analysts agree that the core-periphery hierarchy is based

<sup>4</sup> The distinctions I am drawing between core and semiperipheral industry are not dependent on the specific form of colonialism that was pursued in Ireland, or even on formal colonialism as opposed to more informal means of market control. The strategy Britain pursued in Ireland during the period analyzed here was a fairly classical "liberal" strategy of domination through market manipulation rather than the direct elimination of a competing industry through colonial law, as in the earlier English ban on Irish woollen exports in 1699. Thus, Ireland is not a "special case." The central concept that distinguishes core from semiperipheral industry—innovation—is relatively independent of the means used by core regions to subjugate semiperipheral industries. Moreover, the mechanisms which Britain used to subjugate and peripheralize Ireland's cotton industry were "market" mechanisms rather than direct political control and generalize, with some specificities, to a series of other world-systemic cases. I will discuss this last point in the final section of the article.

on divergent regional material interests that result from direct exploitation and unequal exchange (Chase-Dunn 1989, p. 203). They also agree that exploitation is achieved through the manipulation of regional economic activities, so that the most profitable and expansive activities take place in the core while semiperipheries and peripheries do things that are not only less profitable but may also increase the profitability of core activities or the material well-being of core regions. Thus, at the most general level, the periphery and semiperiphery provide core capital with things it needs, and through domination of the world-system that core hopes to cheapen and stabilize such provision as much as possible.

Wallerstein (1979) defines the world-system as multiple nation-states and societies incorporated within a single division of labor. Within this (now-global) division of labor, core zones perform predominantly core activities, peripheral zones perform peripheral ones, and semiperipheral zones perform a balance of both kinds. Chase-Dunn (1989, p. 211) adds the possibility that semiperipheries may perform distinct intermediate activities between core and peripheral zones—for example, labor-intensive industrial activities such as assembly or some international services such as banking and shipping.

Yet there is disagreement both about how to define this division of labor and about how it gets reproduced. One set of explanations concentrates on the relative position of core and peripheral activities within a continuum of economic activities between the raw material and the final product. Some structuralists hypothesize a correlation between level of processing and profitability, national economic power, or economic growth. Galtung (1971, p. 159) assumes that core regions produce mainly manufactured goods and peripheral regions produce raw materials; he refers to a “gap in processing level” between the two zones. This implies that the production of processed commodities is *core* while less processed production or extraction is *peripheral*. Yet defining coreness by level of processing is problematic. Final assembly regularly takes place in the semiperiphery. Textile weaving was once a semiperipheral activity and spinning a core activity, even though cloth is more processed than yarn. Level of processing may distinguish peripheral (agrarian, extractive) activities from nonperipheral (semiperipheral and core industrial) activities. But it cannot distinguish the industrial division of labor between core and semiperiphery.

Hopkins and Wallerstein (1986) define global production as a series of commodity chains that “link raw materials, labor, the sustenance of labor, intermediate processing, final processing, transport, and final consumption” (Chase-Dunn 1989, p. 205). Certain core nodes along these chains receive especially high profits, while others receive low returns. Core regions contain relatively high proportions of core nodes, peripheral



regions contain low proportions, and semiperipheral regions are in between.

Other descriptions of coreness are indicative. Three common indicators are wage rates, profit rates, and capital intensity. Emmanuel (1972) defines coreness by wage rates, in which relatively low wages in the periphery cause unequal exchange.<sup>5</sup> Wallerstein (1979) expects core profit rates to exceed peripheral ones and explains the difference by the higher capital intensity of core activities. Chase-Dunn (1989, p. 207) assumes that core activities combine all three characteristics: skilled labor receives relatively high wages in relatively capital-intensive production, which in turn facilitates higher labor productivity and higher rates of profit.

Wage rates, profit rates, and capital intensity, however, indicate coreness but do not define it. Each indicator is imperfectly correlated with a prior defining characteristic. Arrighi and Drangel (1986) claim that this prior characteristic is the relationship of an economic activity to clusters of other innovative activities. Activities in leading sectors that define an era of capitalist expansion are clearly core activities. The coreness of activities that are linked to leading sectors depends on whether the linkages induce expansion of the activity and innovation in its productive techniques. Thus, simple economic growth is not equivalent to coreness—growth may result from the capture of innovation and resultant productivity enhancement, but it can also occur in the semiperiphery without innovative changes in technique or technology. Growth is a necessary condition of coreness but not a sufficient one in the absence of innovation.<sup>6</sup>

But what is innovation? Schumpeter (1939) suggests that economic change takes place through economic evolution—a nonequilibrium, discontinuous process whereby economic activity moves to quantitatively and qualitatively different levels. At the center of major economic change are innovations that substantially increase labor productivity, making it possible to produce more output with a given level of inputs (or a given output with fewer inputs). They cluster in space and time. They concentrate in certain sectors and surroundings. They require significant new

<sup>5</sup> Mandel (1975) and Amin (1975) contend that a core-periphery wage differential emerged in the 1880s, while Chase-Dunn (1989, p. 53) identifies a growing wage gap since the 16th century.

<sup>6</sup> This distinction between growth and innovation is foreshadowed in several responses to Bill Warren's (1973) thesis that imperialism is conducive to capitalist industrialization. Both Emmanuel (1974) and McMichael, Petras, and Rhodes (1974) have pointed out that the growth that occurred in the semiperiphery during the 1950s and 1960s was not rooted in an independent technological base. Semiperipheral growth was, therefore, unsustainable, and it failed to close the income gap between core and semiperiphery.

construction of plant and equipment and the creation of new firms or the reorganization of old ones. Innovation is not equivalent to invention—how an invention is utilized is more important than invention itself. Indeed, the reorganization of production may be more important than technological change. Chandler (1962, 1990), for example, proposes that larger firms can organize production in new ways to capture economies of scale (which transform higher fixed costs into lower unit costs), technological complexity (allowing firms to combine resources in new ways), and vertical integration (reliance more on their own resources than on markets for critical inputs). New forms of corporate organization also involve new methods of skill formation, motivation, retention of key workers, and gaining control of a satisfactory portion of the productivity gains that arise from innovation.

Mass and Lazonick (1990) and Lazonick (1991) put organizational change at the center of innovation. They trace British competitive advantages in the cotton industry to five main sources of innovation: labor costs, fixed capital costs, materials costs, marketing costs, and administrative costs. Unlike entrepreneur-centered accounts, their analysis centers on the importance of developing an experienced, specialized, and cooperative labor force out of preexisting domestic and craft labor. This is a welcome change in emphasis from modernizationist accounts of core entrepreneurial superiority. Yet, without a theory that elaborates the structural sources of and impediments to developing disciplined factory labor from a pool of domestic and craft labor, we run the risk of blaming peripheral labor for not “developing capitalism” just as some analysts blame peripheral capitalists for not “developing capitalism.” Thus, it is valuable to combine structural approaches such as the world-system perspective with historical approaches to innovation and competitive advantage.

Mass and Lazonick's (1990) other sources of innovation are equally important. The development of a closely linked engineering industry cheapened the cost of producing cotton goods and increased the industry's flexibility to respond to changes in market demands and the quality of cotton supplies. Manchester's close proximity to the major point of entry of the raw material cheapened production and increased the stability of material supply. The advantages of empire in access to raw materials were matched by the way its transport and information infrastructures opened up new markets for yarn and cloth. And the Lancashire cotton industry's centralization around well-developed input and output markets reduced the amounts of financial resources and management skills that were necessary to compete.

Finally, coreness and innovation are related to generalized economic growth through external economies (Schumpeter 1939) and linkages

(Hirschman 1958). Schumpeter links innovation to the expansionary phase of the economic long wave (see Van Duijn 1983). A "primary wave" centers on a limited group of leading sectors where innovation is concentrated. The primary wave persists until innovation is generalized (or those who fail to adapt are destroyed) and surplus profits in the leading sectors fall. Meanwhile, the prosperity created by the primary wave induces a "secondary wave." Many firms speculate on the primary expansion, some in a reckless and overly optimistic way. Because it covers a much wider part of a regional economy, the effects of the secondary wave on economic growth can be much greater than the primary wave. Simple economic growth, however, is not equivalent to innovation even though innovation may be the most important cause of growth. Rather, coreness is indicated by the growth of innovative sectors relative to total economic growth.

The "secondary wave" resembles Hirschman's (1958) concept of linkages, in which firms are induced to (1) begin producing things that are needed by the primary innovators or (2) use their output to produce other commodities. Schumpeter's concept of external economy, however, is both broader and more precise. It is broader because the secondary wave includes both activities that are directly linked to innovation and those that are induced by the general "prosperity" that follows clusters of innovation. It is more concise because Schumpeter (1939) begins his analysis of economic change with innovation (independent variable) and works through linkages and secondary multipliers (intervening mechanisms) to economic growth (dependent variable), while Hirschman begins with linkages without adequately exploring the innovative prerequisites for their successful inducement.

The distinction between core and semiperipheral industry is clarified by the concepts of *creative and adaptive response*. Schumpeter (1947, p. 150) proposes that economies, sectors, or firms respond differently to change. Those that do something new make a creative response—they utilize new technologies or forms of organization in ways that allow them to outcompete others. Those that respond by extending their existing practice make an adaptive response, which enables them to compete with innovators for a time by intensifying workers' efforts, reducing wages, and accepting lower rates of profit. Core activities (or firms or sectors) are centers of creative response. Semiperipheral activities rely on adaptive responses and are, therefore, prone to lower rates of profit, lower wages, lower capital intensity, and greater rates of stagnation and failure.

Creative and adaptive responses resemble the Marxian concepts of absolute and relative surplus value. Like creative response, relative surplus value refers to a firm's ability to increase its rate of profit by utilizing production techniques, so that it uses less than the social average labor

time to produce a given level of output. Surplus profits may accrue to innovating firms within a sector or to whole sectors. Absolute surplus value, on the other hand, refers to a firm's ability to increase or maintain its rate of profit by increasing the rate of exploitation—extending the work day, increasing the intensity of work, or reducing the wage rate. This is clearly an adaptive response. Laclau (1971) and Brenner (1977) argue that technological changes in advanced capitalism have made it impossible for the core to exploit the periphery through capturing absolute surplus value. They imply that peripheral regions fail to innovate not because of core interests, but because of a lack of dynamism of local elites. Yet restrictions on the transfer of leading edge technology or on participation in leading sectors may consign peripheral firms to use outmoded technologies or previous innovations. This form of adaptive response enables peripheral firms to maintain a presence in certain industrial sectors over long periods of time, although with lower profit rates and lower wage rates.

Finally, innovation occurs in distribution as well as production. Schumpeter's list of important innovations includes access to new markets and sources of supply. Mass and Lazonick (1990) emphasize the importance of conditions of material supply and marketing structures to competitive advantage. Schumpeter (1939, pp. 93, 99), by distinguishing between factor-using periods of innovative "gestation" and output-increasing periods of innovative "operation," underscores the importance of market stability and potential market expansion for extending a firm's or agent's horizon.<sup>7</sup>

Recent approaches from within the Schumpeterian tradition pursue the importance of institutions that encourage the stable yet challenging environment that is necessary for innovation. The most influential recent works in this regard develop concepts such as *national systems of innovation* (Freeman 1987; Bengt-Ake 1992) and *national competitive advantage* (Porter 1990). These approaches suggest that innovation is captured not by entrepreneurs, but by institutions within firms and in the national economy. Schumpeter's insistence that innovations come in clusters leads some to emphasize the importance of nationally bounded, interactive processes of technological change, learning, and productive reorganization. Porter (1990), for instance, emphasizes the creation of national competitive advantages through highly localized processes that improve factor conditions (skilled labor and infrastructure), demand conditions

<sup>7</sup> Lange (1943, p. 21), on the other hand, excludes market changes from his definition of innovations, which must be output increasing or factor saving. Yet his formal economic approach avoids the relationship between uncertainty, "horizon," and agents' willingness to introduce innovations.

(home demand for an industry's product or service), supporting industries (linkages to suppliers), and firm structure (including constructive domestic rivalry). Competitive advantages are thus created rather than endowed as in neoclassical economic theory.

Yet such approaches to innovation remain wedded to the nation-state or the firm as the critical unit of analysis and ignore or seriously underestimate the importance of global institutions to the capture and localization of innovations. State activities to protect markets and open up new ones are important in this regard, especially if innovation is associated with economies of scale. From within a world-system framework, Bornschier (1992, p. 4) views the state as producer or protector of innovation, referring to the "world market for protection" or social order, which is a territorially bounded public utility and an element of the national production function. States support innovation and investment, he argues, by placing their firms within national and international networks of economic transactions that are effectively protected. Hegemony, zones of influence, and national protection are all means by which states try to improve the structural environment for innovation.

Concepts from the world-system approach, then, enhance our understanding of how innovation is captured, localized, and protected. There is no such thing as a *national* system of innovation because clustered innovations require global strategies to secure raw materials, capture markets for the export of core products, and stifle competition from within and outside the core. What appears as a highly localized process is embedded within global strategies to secure the necessary commercial and material environment for innovations to cluster or interact within the boundaries of a core state or region. These global strategies may follow characteristic temporal patterns, moving from protection to free trade, from direct manipulation to liberal hegemony, from warring with rivals to the enforcement of peaceful trade (Chase-Dunn 1990, pp. 54–69). The globalization of studies of innovation allows one to recognize that the capture of innovative core activities is not just a matter of intra-core competition, but also part of the simultaneous process by which the world-system hierarchy is reproduced.

The association between core activities and innovation is, I believe, robust. Innovation defines the cutting edge between coreness and semi-peripherality within the global structure. It allows more processed economic activities to be semiperipheral if innovation is concentrated upstream. It allows sectors or commodities to move in and out of coreness as their relationship to centers of innovation and their sites of production change over time. It enables us to distinguish which regional competitors in a single industry—such as cotton—are core and which are semiperipheral. Unlike approaches that use commodity chains and define as core

those nodes that receive higher rates of profit, it examines the causes of surplus profits and even allows us to analyze indirect linkages among nodes of different commodity chains in a given region.

Furthermore, an examination of how classes and states induce or constrain actors or regions from participating in innovative waves may help us understand how the structural hierarchy is produced and reproduced. Innovation puts activities or sectors in their regional and temporal context. Core activities are defined in relation to each other—since they cluster, core activities and regional coreness are related. Even if a sector or firm innovates, it is core only if it is connected to a series of other core activities in the region. The absence of such linkages threatens the long-term stability of the activity and its ability to remain innovative. It will become dependent on outside sources of supply and on outside markets and, in the long run, will either be peripheralized or decline. A complete theory of innovation, therefore, must tie structural characteristics of the global hierarchy (which world-system analysts assume to be stable) to the ever-changing locations of clusters of innovation.

#### WHAT WAS "LEADING" ABOUT COTTON?

A "leading" sector is one at the center of innovation. It expands, generates surplus profits, and links with other core sectors. Cotton by itself did not constitute the whole of England's industrial rise; it was at the center of a series of linked innovations that made up the "industrial revolution." Deane (1968, pp. 104–7) belittles cotton's impact because the industry never exceeded 5%–6% of British GNP, although other estimates put the figure at 11%–12% (Farnie 1979, p. 24). Yet her focus on the size of the cotton industry misses the sector's impact on overall English industrialization.<sup>8</sup>

Once we recognize that cotton was the center of a wide cluster of innovations and a wider network of expansionary impulses, Deane's revisionism loses much of its force. Cotton induced technical spin-offs in mechanical engineering, chemicals, and steam power (Musson and Robinson 1969). It was a bulwark of the English export trade, with important linkages to shipping (Davis 1962).<sup>9</sup> And the rise of Manchester

<sup>8</sup> A more recent revision in the late 1980s questioned the concept of the "industrial revolution" during the years 1780–1830 on the grounds that rates of growth of British national output, total factor productivity, and industrial output were all slow before 1830 and did not display the sharp upward turn around 1780 that previous economic historians claimed. For a review of this revisionist literature and an excellent critique, see Berg (1994, pp. 13–33).

<sup>9</sup> Cotton manufactures made up 52.8% of the increase of value of British exports from 1785 to 1815, and 35% from 1820 to 1850 (Farnie 1979, p. 10).

and Liverpool induced the development of shipping, canal, and rail technologies—the center of the “second industrial revolution”—and the improvement of post and communications (Redford 1934, pp. 188–204).

Farnie (1979, pp. 27–36) uses a linkage approach to assess the impact of the cotton industry on British economic change before and after 1830. Before 1830, the greatest growth effects of cotton were in the spinning sector, where a discontinuous break from earlier levels of production was enabled by changes in technique, productive organization, and supply of the raw material. There were important backward linkages in engineering and transport, but forward linkages were limited to weaving and finishing. Weaving was still performed primarily on hand looms in homes or small workshops. The finishing trades, especially bleaching, were more capital intensive but were not yet linked to the chemical and dye industries that would become prominent later in the 19th century.

After 1830 the new demands of the spinning sector induced a transformation of the whole economy. The introduction of power looms added impetus to mechanical engineering. Transportation requirements stimulated the introduction and expansion of the Lancashire rail system. Fairburn and others revolutionized the technology of mill building in Lancashire. Cotton may have consumed half of the increment in steel production and fabrication through its demand for power looms, printing, cylinders, steam engines, and boilers (not to mention the steel consumption of transport and mining machinery). Other linkages included machine oils, wooden bobbins, chemicals and dyes, and rubber and leather machine belts. Murray (1870) estimates that 154 ancillary industries supplied the cotton sector by 1870. To this we may add the consumer demand generated by the industry's workers.

But rates of change of technology, productive organization, wage rates, skill levels, and profitability were uneven among subsectors of the cotton industry. Innovations were concentrated in certain sectors, while others remained relatively unchanged for long periods. Before 1830, the most innovative processes were upstream from less advanced ones. The major technical innovations—the water frame, the mule; and the jenny—were in spinning. Moreover, spinning first combined these new technologies with factory-based production. Most authors agree that the impetus for change in spinning was the bottleneck it created to weaving. Yet, even after the remarkable series of technical innovations of the late 18th century and the centralization of spinning in the factory, weaving was not a bottleneck on spinning. Traditional social relations in weaving were actually encouraged by the use of the export market as a “vent” for surplus yarn. Thus, spinning before 1830 was the center of “innovative response” and weaving a center of “adaptive response.” As mechanized mill spinning increased yarn output, rural hand weaving was extended.

The putting-out system continued to dominate weaving until the 1840s (Landes 1969, pp. 42–44).

To summarize, the coreness of a leading economic sector is defined partly by its relation to other sectors. It induces a series of profitable and expanding outside activities. But not all parts of a leading sector are equally core. Some processes are centers of innovative clusters, while others remain relatively untouched by innovation. Core and semiperipheral activities may reside next to each other in a commodity chain. This was the case with cotton spinning and weaving between 1780 and 1830.

#### GROWTH, INNOVATION, AND PERIPHERALIZATION IN BRITISH AND IRISH COTTON

Ireland's textile industry began in wool, which grew rapidly until the British Woollen Act prohibited the export of woollen cloth from Ireland in 1699. The suppression of Irish wool, like Indian textiles, was a state response to pressures by English woollen interests (Kearney 1959; Kelly 1980). But the English state's wider intent was to subjugate and transform Irish industry to produce linen and provisions for the British fleet (Ellison 1886, p. 19). Irish textile expansion after 1700 was in linen, which was stimulated by a 1696 act that allowed plain Irish linen to enter England duty-free and by the activities of the Irish Linen Board, established in 1711 (Crawford 1969, p. 26).

The linen act gave Ireland advantages over continental producers, but Irish linen was a dependent industry from the beginning. Britain encouraged Irish linen to relieve its dependence on Baltic sources. Markets for linen expanded more slowly than other textiles and Britain strictly limited Irish exports of certain linens in order to keep the most profitable manufactures in England. In 1773, on the eve of the birth of Ireland's cotton industry, England took more than 90% of Irish linen exports. As a result, the industry was highly unstable. During the depression of 1773, up to three-quarters of the linen looms in the north of Ireland were idle (Monaghan 1942, p. 1). Linen's dependent nature was increased by a limited world supply of flax so that, unlike cotton, its price rose with demand (Durie 1976, p. 90); by its absence of linkages to associated activities; and by its decentralized organization among farmers with tiny plots, who moved in and out of weaving or spinning as a hedge against fluctuations of the cost of subsistence (Crawford 1969, pp. 27–28; Durie 1976, p. 91). Until technology and factory organization became routine enough that they could be introduced widely into a textile with such limitations of raw material supply and final demand, there was little



impetus to innovate. Nearly all increases of linen output in the 18th century required proportional increases of labor.<sup>10</sup>

The Irish cotton industry, on the other hand, was established during a period of relative autonomy from Britain. In response to mobilization by the Irish Volunteers, Britain repealed some of its more egregious restrictions on Irish trade and industry (although a century of the navigation and woolen acts left Irish commerce and industry woefully underdeveloped). As linen stagnated during 1770–80, the semi-independent Irish parliament responded with incentives for cotton manufactures in the form of bounties and protection against imports of English calico and muslin. New spinning technology was introduced, including water-driven mills, and cotton progressively replaced linen.<sup>11</sup>

Although small by English standards, Irish cotton production expanded rapidly before 1800. Because all the raw material for the industry was imported, rates of growth of Irish and British cotton production can be estimated from their retained imports of cotton wool.<sup>12</sup> Figure 1 shows the logged output of the British and Irish industries between 1782 (the first year of normal activity following the American War of Independence) and 1822 (the last year for which separate Irish data are available).<sup>13</sup> The overall rates of growth in the Irish and British industries are

<sup>10</sup> Although machinery was available from the 1730s, Irish flax was scutched by hand. Mechanization of spinning and weaving followed cotton by decades. The only major gains in productivity before 1800 were from substituting the spinning wheel for the distaff or rock and the modification of hand looms. Even the spinning wheel did not reach some remote areas until the 1790s (Durie 1976).

<sup>11</sup> In Belfast in 1760 there were 400 linen looms and no cotton looms; an 1810 census reported 860 cotton looms and 6 linen looms (Monaghan 1942, p. 3).

<sup>12</sup> Data on Irish imports and exports of cotton wool, yarn, and cloth between 1764 and 1822 are in the annual ledgers of the Irish Customs, found in the National Library of Ireland. British data beginning in 1881 are from Baines (1835, p. 347). Blaug (1961, p. 377), following Baines and others, assumes that wastage in spinning was constant at about 11% until the 1860s. By the 1780s the use of cotton in other lines of production (candlewicks, mixed fabrics) was minimal. Thus, cotton yarn output can be estimated with reasonable accuracy as 89% of retained cotton wool imports (imports net of reexports). Cloth manufactures (by weight) are generally considered to be equivalent to retained yarn output. This method cannot distinguish between value added in spinning, weaving, and finishing. Regional industries that concentrate in different stages are not strictly comparable, nor are specializing regions strictly comparable with those that are integrated from spinning through finishing. Initially, however, I will use a global estimate of cotton output, which is cotton yarn available for weaving (whether the yarn is subsequently woven or exported). Thus, "cotton output" (in pounds) is estimated as the sum of yarn produced and yarn imported.

<sup>13</sup> Irish cotton wool imports for 1809–11 are expected values estimated by the modified Cochrane-Orcutt iterative process. This was necessary because cotton wool imports doubled during those years, from 2.5 to 6 million pounds, only to drop back to 2.6

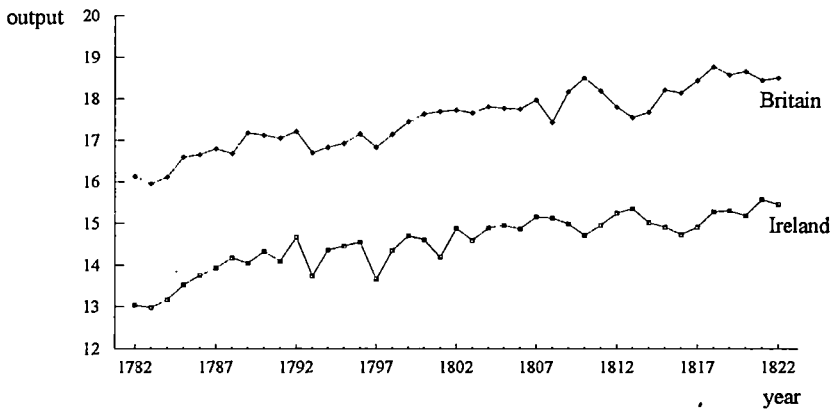


FIG. 1.—Logged output of the Irish and British cotton industries (in pounds), 1782–1822, calculated from Irish Customs (various years).

estimated by autocorrelation models which regress logged output on time, where 1782 = 1 and 1822 = 41.<sup>14</sup> The rates of growth of cotton output are the coefficients of time. The results are the following (*t*-statistics in parentheses):

$$\begin{aligned}
 \text{Britain: } \ln(\text{OUTPUT}) &= 16.218 + .060\text{TIME} & R^2 &= .902. \\
 &(11.641) \\
 \text{Ireland: } \ln(\text{OUTPUT}) &= 13.489 + .050\text{TIME} & R^2 &= .808. \\
 &(9.342)
 \end{aligned}
 \tag{1}$$

million pounds in 1812 and never achieve the 1809–11 levels again. These were the years of U.S. embargoes on exports to England, and the difference between actual values and expected values consisted of cotton wool that was imported by American ships into Ireland and reexported to Britain as a way of circumventing the embargo “through the back door.” Dubourdieu (1812), in his statistical survey of county Antrim, estimates that 21% of cotton wool imports in Belfast were reexported in 1811. This is probably a serious underestimate. Most Irish economic historians who quote Dubourdieu (e.g., Monaghan 1942; Gill 1925) fail to recognize the extraordinary period during which his observations were made. In other years, reexports of cotton wool were practically nil and were not even recorded in the customs books. Data on reexports is available for 1835, Irish exports of cotton wool are less than 1% of imports (Irish Railway Commissioners 1837).

<sup>14</sup> All of the regressions in this article are estimated using the modified Cochrane-Orcutt method, with maximum-likelihood estimation of  $\rho$ . In all cases, Durbin-Watson tests indicated first-order autocorrelation.

Both rates of growth are similar. The British industry grew by 6% per year, and the Irish industry by 5%.<sup>15</sup> At this level of generality, the two cotton industries appear to be nearly equivalent.

A closer look at figure 1, however, indicates that the Irish cotton industry went through two phases. Cotton output grew rapidly and relatively smoothly until the mid-1790s and thereafter became slower and more erratic.<sup>16</sup> Once we divide Irish cotton into its early and late phases, using the union of Ireland with Britain in 1801 as the dividing year, we find two distinct growth patterns:

Period 1, 1782–1801:

$$\begin{aligned} \text{Britain: } \ln(\text{OUTPUT}) &= 16.106 + .071\text{TIME} & R^2 &= .744. \\ & (5.069) \\ \text{Ireland: } \ln(\text{OUTPUT}) &= 13.107 + .070\text{TIME} & R^2 &= .594. \\ & (4.541) \end{aligned} \tag{2}$$

Period 2, 1802–22:

$$\begin{aligned} \text{Britain: } \ln(\text{OUTPUT}) &= 16.513 + .051\text{TIME} & R^2 &= .641. \\ & (3.952) \\ \text{Ireland: } \ln(\text{OUTPUT}) &= 14.253 + .026\text{TIME} & R^2 &= .472. \\ & (2.867) \end{aligned} \tag{3}$$

Before 1801, the two TIME coefficients indicate that each industry grew at an equivalent rate of 7%. After 1801, while British output growth remained high (5.1%), the Irish growth rate fell dramatically to 2.6%.<sup>17</sup> Moreover, the simple time model for Ireland fails to account for a lot more of the observed variance after 1802, which indicates that Irish cotton output was more unstable during the second period. There were

<sup>15</sup> It should be remembered that the linearity of these estimated models is produced by logging cotton output to obtain rates of growth. This masks a discontinuous change in actual output, and also obscures a path of expansion that experienced severe periods of stagnation as well as periods of rampant growth.

<sup>16</sup> The exploratory technique of a running median identifies more precisely when growth rates shifted. There were clear breaks in the median rates of growth of Irish output in 1795–97 (when the median growth rate declined from 17.5%–19.9% to 9.6%–17.5%), in 1805–9 (when it declined to 9.4%–9.6%) and in 1816 (when it declined to 9.4%). Unfortunately, Irish trade data are not available after 1822, but one would expect rather steady declines soon thereafter.

<sup>17</sup> The distinction between the two industries in different time periods is even starker when we consider their earliest years. During 1782–95, output in the Irish industry grew at an estimated rate of more than 11% per annum, while the English industry grew by 7%. Thus, while the British industry maintained a rather even rate of growth through the 1790s, the Irish industry was already in decline.

periods of high output and equally distinctive slumps. Instability and recession in the British industry were less severe.

The early success of the Irish cotton industry, as indicated by its growth rate in model (2), is reflected in the English response to Prime Minister Pitt's 1785 proposals for limited free trade between Ireland and England. Lancashire cotton manufacturers rejected the proposals outright. They regarded Ireland as a commercial threat because of its abundant low-wage labor, plentiful water power, and state incentives to industry (Edwards 1967, p. 11). Robert Peel even threatened to move his cotton manufactures to Ireland if the propositions were enacted. English industrial capital organized solidly against Pitt and defeated the proposals.<sup>18</sup>

Fifteen years later the English manufacturers' attitude had changed. They pressed Pitt to withdraw Irish cotton duties immediately under the 1801 Act of Union of Ireland with Britain, in order to gain free access to Irish markets. The Manchester Chamber of Commerce argued that "the removal of all restrictions would tend to direct the capital and industry of both countries to prosecuting those various manufactures for which each possessed the greatest natural qualifications" (Redford 1934, p. 142). After delays caused by political considerations, Irish duties on cotton yarn were eliminated in 1816 and on cotton cloth in 1824.

In 1785 British industrial capital rejected free trade with Ireland because it had too many of the "greatest natural qualifications" in cotton manufactures. By 1801, they demanded free trade because England now possessed these "natural" qualifications. What happened in between? I believe the distinct growth patterns of Irish and British cotton output and the timing of their divergence—reflected in models (2) and (3)—can be explained by the localization of innovation in the cotton industry around Lancashire and by the peripheralization of the Irish industry. The English industry became a center of creative response, introducing new technologies but, what is more important, exploiting new forms of productive and commercial organization. The Irish industry, on the other hand, extended its cotton activities through adaptive responses, primarily by extending the labor-intensive system of putting-out in weaving, which became a subsidiary sector to English spinning. Ireland's peripherality is indicated by its concentration in weaving rather than spinning, its unfavorable access to the raw material, its lack of linkages to other innovating sectors, and its unfavorable access to external and even domestic markets.

<sup>18</sup> Ironically, the English industrialists demanded free trade with France because they desired access to its markets and perceived no threat from the local industry (Redford 1934, p. 127).

For a time, Ireland's relative advantages in cheap labor costs and water power enabled it to remain competitive with Britain, despite its continued reliance on adaptive responses. But in the adverse commercial conditions of the early 19th century—a period of war and global economic instability—the strength of the English innovative sectors enabled them to survive and expand at a higher rate than the Irish sectors. But England's innovations were not a national event. They also required the subordination of the Irish textile industry, which gave the larger English spinners the flexibility to move in and out of the Irish market, dumping their surplus yarn there in periods of slumping demand while using cheap Irish weaving labor to cheapen the cloth England sold throughout the world. This explains the rising instability of the Irish industry after 1801, as observed in model (3) above. England achieved the stable supply of raw materials that was necessary for its firms' increased throughput by increasing the instability of supply in subordinate markets that they serviced through reexports. England's innovations and creative responses and, ultimately, its rapid rates of growth and relative market stability, came at the cost of Irish adaptive response, instability, and periodic stagnation.

#### SPINNING AND WEAVING: INNOVATIVE AND ADAPTIVE RESPONSES

The key innovations during 1780–1820 were centered in cotton spinning, which was clearly the leading sector of the world economy. New spinning technologies were combined with the new factory organization to radically increase throughput and labor productivity. Linked capital-intensive sectors such as finishing, machine building, shipping, and distribution were increasingly mechanized. But weaving was still primarily done in homes and small weaving sheds. Expansion of yarn output was achieved primarily by increasing labor productivity due to innovations in technique, organization, productive scale, and material supply. Expansion of weaving (and of noninnovating spinning operations) was achieved primarily by adding more labor and equipment. The first expansion was a creative response, while the second extension was an adaptive response. Some spinners competed for a time by intensifying labor exploitation and accepting lower profit rates; weavers in general adapted to the increased supply of yarn by extending their existing practice through the putting-out system. In world-system terms, cotton spinning was at the center of core industry while weaving was a semiperipheral industrial activity.

How did this distinction affect the trajectories of the British and Irish cotton industries? Figure 2 shows Irish output of cotton manufactures

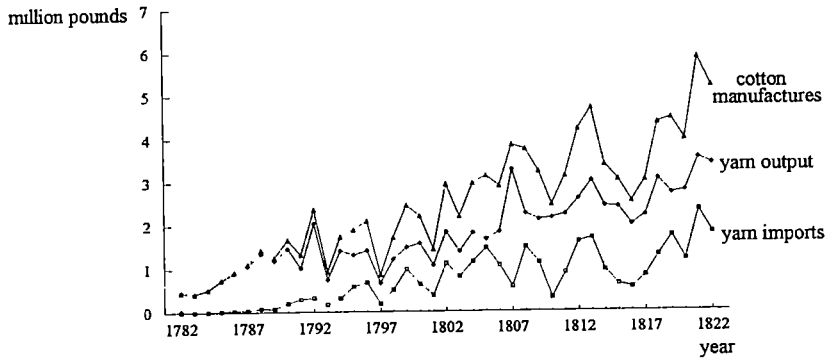


FIG. 2.—Irish cotton industry output and its components, 1782–1822, calculated from Irish Customs (various years).

and its components, yarn output and yarn imports from Britain. Irish yarn output increased rapidly from 1782 to 1788, was stagnant between 1788 and 1806, and rose slowly thereafter. On the other hand, British yarn exports to Ireland increased rapidly after 1790 and rose irregularly but steadily until the 1820s. British yarn was either woven into fabrics for the Irish market or woven for British dealers who reimported the fabric for finishing and marketing around the world. The rates of growth of homespun versus imported yarn as inputs into the Irish cloth industry, estimated by autocorrelation models, are the following for 1790–1822:

Irish

$$\begin{aligned} \text{spinning: } \ln(\text{OUTPUT}) &= 13.562 + .0348\text{TIME} & R^2 &= .6552. \\ &(9.0123) & & \end{aligned} \quad (4)$$

British

$$\begin{aligned} \text{yarn: } \ln(\text{IMPORTS}) &= 12.173 + .0531\text{TIME} & R^2 &= .5364. \\ &(5.1158) & & \end{aligned}$$

Yarn imports rose by an estimated 5.3% per annum between 1790 and 1822, while Irish spinning expanded by less than 3.5%. Irish cotton became concentrated in weaving, where British spinners and dealers put out yarn, and Irish entrepreneurs, in a classic adaptive response, took cheap British yarn and extended their exploitation of Irish weavers. The resulting Irish “cotton industry” was capable of periods of rapid expansion but was highly dependent on British machines and materials. It had few of the innovative characteristics that made British cotton a leading sector. Increasingly, core spinning became delinked from semiperipheral weaving and was concentrated in Britain.

The imported share of Irish yarn consumption rose rapidly, from less than 1% in 1782 to more than 30% in 1795. After 1795, it fluctuated between 20% and 50%. The fluctuation of yarn imports added substantial instability to the Irish cotton trade. Irish capital's "failure" to innovate more widely in cotton spinning was a rational reaction to a market that was periodically glutted by imports. These dislocations became particularly problematic under free trade after the union. Irish weaving was also in a precarious position because its supply of yarn was unstable (fig. 2). Because it did not innovate, it became vulnerable once technical changes and factory organization swept the British weaving sector in the 1830s. Adaptive response may be successful for a time, but its effectiveness is temporally limited when faced with a continually high rate of innovation in competing sectors.

How did the distinction between spinning and weaving arise? During the early cotton period, the capital needed to begin either spinning or weaving was quite small. Yet the organization of production into factories was concentrated in spinning, culminating in the predominance of large spinning mills in the early 19th century (Edwards 1967, p. 9). A small spinner could produce with relatively little capital outlay, but the large mill, which combined power mules and multiple spindles with the advantages of buying large lots of cotton wool, massively increased throughput. Factory innovations turned spinning from being a bottleneck on weaving to being an inducer of rapid expansion in weaving.<sup>19</sup> But weaving did not expand by increasing its labor productivity—through innovation—but by extending a system of middlemen who intermediated between the relatively concentrated spinners and multiple weavers spread out over large areas.

Low wages gave Irish weavers a great advantage over the British. But Irish spinning could survive only if low wages compensated for technical disadvantages and higher material costs.<sup>20</sup> Lower wages were maintained by continuing the Irish agrarian-based relations of production, which reduced the subsistence costs of farmer-spinners and farmer-weavers. But the persistence of this agrarian-based organization of production precluded the widescale introduction of factory-based spinning that was revolutionizing the English industry.<sup>21</sup> Thus, Irish entrepreneurs used

<sup>19</sup> In 1770 spinning was a bottleneck: six-eight people were required to spin enough yarn for one weaver. By 1785 the productivity of spinning labor increased so much that weaving had to expand for the yarn to be sold (Ellison 1886, p. 48).

<sup>20</sup> Geary (1981, p. 41) estimates that coal was 2% of total costs in the Irish "cotton industry" while wages were 33%. Belfast spinning wages were about 72% of Lancashire wages in 1833, and weavers' wages were substantially lower.

<sup>21</sup> In addition, a higher proportion of Irish urban labor was female than in Lancashire—a male to female ratio in Belfast of about 1:2 and in Lancashire of 1:1—while

relatively labor-intensive processes, including putting-out, to compete for a time with Lancashire spinners. As a result, Irish spinning eventually declined and weaving predominated.

But weaving was clearly a semiperipheral industry. Weavers' wages were extremely low;<sup>22</sup> their market was unstable and it was the first textile sector to feel the effects of a recession (Ellison 1886, pp. 78–79); weaving sheds required far less capital than spinning mills of corresponding dimensions, so there were few economies of scale or speed; and weavers were often tied to buyers, while the larger spinners moved back and forth between home markets and export (Ellison 1886, p. 79; Edwards 1967, pp. 27, 50).

Yet the spinning firms did not automatically achieve the diversified market access that was necessary to realize economies of scale. This had to be created. Throughout the world-system, English market access was established through its use of sea power to dominate international commerce and to regulate its imperial trade laws and practices. Within Ireland, the British state's desire to reassert direct political control after the 1798 Irish rebellion corresponded to cotton capital's demands for free access to the Irish market. Both interests were enhanced by the forced union of Ireland with Britain in 1801. Free trade (in Ireland as throughout the world-system) enabled spinners to dump their yarn abroad during difficult periods such as the wartime period after 1803, when "the export effort sometimes resembled a gigantic dumping operation; the outcome of desperate attempts by manufacturers to fight off idle capacity illustrating their dependence on the foreign market for their successful expansion" (Edwards 1967, p. 74). English dumping was especially important in the finer yarns where yarn stocks tied up huge amounts of capital (Edwards 1967, pp. 128–30).

As the English industry became more concentrated, smaller spinners became dependent on large spinners and dealers with market contacts to sell their yarn. In time, the smaller spinners became "controlled by their yarn dealers" (Edwards 1967, p. 34). They had limited capital, spun on a commission, and sent all of their yarn to a dealer who kept them supplied with cotton and made cash advances. Small spinners were at a disadvantage on foreign markets because of high transactions costs and

---

women spinners earned less than one-third the wages of male spinners (Geary 1981, p. 44).

<sup>22</sup> In 1811, Irish home weavers and their spouses reportedly worked from four in the morning to midnight six days a week for a net wage of about two shillings, sixpence (2s. 6d.; Monaghan 1942, p. 12). Most factory weavers made 9s.–15s. per week. In 1832–33 Irish home weavers received 7s. per week while Manchester spinners made 20s.–25s., mechanics 24s.–26s., machinemakers 26s.–30s., and iron founders 28s.–30s. (Redford 1934, p. 80).



unfavorable credit terms, so that they were often forced to sell on the less profitable home market.

Free trade extended this productive hierarchy to Ireland and the world-system beyond. The large English spinners increasingly subjugated Irish weaving through their dealers in Ireland, who regularly reduced their Irish prices to undercut local competition (Edwards 1967, p. 140). The pressure to sell yarn to Irish weavers increased during the 1790s with the size and throughput of English spinning mills. Eventually, the largest English spinners colluded to share out the Irish market at agreed minimum prices (Edwards 1967, p. 141).<sup>23</sup>

When the United States imposed trade barriers against Britain in 1809, British manufacturers began dumping cloth as well as yarn in Ireland. Irish manufacturers could not respond by exporting their own cloth because they lacked a solid export infrastructure—the by-product of more than a century of British domestic protection and restrictions on its colonies' trade with countries other than England. Singular Irish attempts to export cloth to America ended in disaster, and Irish customs records show only a handful of small cotton textile shipments from Ireland to America after 1805.

The Irish cotton industry finally collapsed after England removed its tariffs on yarn in 1816 and cloth in 1824. Between 1825 and 1835 Irish yarn output fell from 3.6 to 2.3 million pounds and cloth output fell from 6.3 to 2.9 million pounds (Irish Railway Commissioners 1837). As English weaving was mechanized, the Manchester manufacturers began to export finished cloth to Ireland rather than putting-out there. English cloth exports to Ireland averaged less than 80,000 yards before 1815, but reached 850,000 yards in 1822. British cloth exports rose to 5 million yards in 1825 and 14 million in 1835, while yarn exports fell from 3 million to 500,000 pounds.<sup>24</sup>

Belfast spinners moved into spinning flax when they became unable to compete in cotton. Both the number of cotton spinning mills and imports of cotton wool into Belfast fell dramatically between the early 1820s and 1835 (Dickson 1976, p. 110; Irish Customs 1823; Irish Railway Commissioners 1837, p. 73). Dublin and Cork found no adaptive re-

<sup>23</sup> Even around Belfast, where there were some modern mills, the finer yarns continued to be imported from England. Ironically, the skilled Ulster weavers were especially dependent on the British industry because Ulster's mills could not spin the fine yarns they needed to weave high-quality cloth (Geary 1981, p. 38). The dependent Ulster weavers were typically controlled by British spinners under the putting-out system.

<sup>24</sup> The remaining yarn exports came mainly from Scottish spinners who were attempting to compete in an ever more difficult environment by their own adaptive response of putting-out in Ireland (Dickson 1976, p. 111).

sponse. The recession of 1825–26 caused the greatest run of company failures in Dublin history to that time. The Cork industry entirely collapsed, causing emigration “on a scale unique by pre-Famine standards” (Dickson 1976, p. 110). As Irish labor advantages decreased, Irish weavers failed to remain competitive even in coarser lines of cotton manufacture.

The overall nature, timing, and depth of the peripheralization of Irish textile manufactures between 1780 and 1835 is indicated by patterns of British penetration of Irish markets. Market penetration is not the core meaning of peripheralization, but opening up new markets is necessary to core innovations while it destabilizes peripheral economies. At the same time, core protection forecloses reverse penetration. Irish (like Asian) textiles were prohibited from competing in their most important export markets, England and the empire, while the English industry established its competitive advantage. England protected its imperial markets from Irish competition under the navigation acts while it established competitive advantages in export marketing and transport. Once Britain established competitive advantages in spinning by the 1790s and in weaving by the 1830s, it enforced free trade throughout the empire, quickly penetrating its markets and making them unstable environments for innovation.

Table 1 shows British import penetration of the Irish market from 1780–1822, along with the shares of yarn, cloth, and cotton manufactures in import penetration.<sup>25</sup> The table reveals an initial decrease in the levels

<sup>25</sup> Import penetration (*IP*), defined by the ratios of imports to apparent consumption, is given by

$$IP = \frac{Mc + My}{(Mc + Pc) - Xc},$$

where *Mc* is Irish imports of cloth (plain and colored calico, muslin, hosiery, and miscellaneous manufactures), *Pc* is domestic production of cloth, and *Xc* is Irish exports of cloth. In order to avoid double counting, domestic production does not include cloth made from British yarn, and is calculated as

$$Pc = 0.89 \times Mw,$$

where *Mw* is imports of cotton wool. Import penetration is measured in physical terms by converting Irish and British products into physical units (pounds). English trade data for 1833 by value and weights (Baines 1835, p. 407) give the following multipliers (pounds per yard): plain calico = .2396; colored calico = .1429; muslin = .15; hosiery = 2.5 pounds per dozen. The values of these products per pound vary from 1s. 3d. per pound for plain calico to 3s. 5d. for muslin in 1833 prices. Weights of miscellaneous cotton manufactures are estimated by applying the official customs values for velvets, etc., mixed fabrics, and lace (which remained unchanged), weighted by each product's proportion of 1833 British exports (Baines 1835, pp. 351, 407). This assumes that the ratios of each product to total exports remained about the same over time, which may

of import penetration, associated with Irish protection in the 1780s, followed by rapid increases in the 1790s. Import penetration remained relatively stable in the range of 35%–45%, with notable short-term drops in 1807 and 1810 (during restrictive U.S. trade policies). There were two periods of rapid increase: 1790–1805 and 1815–35.

The first phase of rapid import penetration was driven by English yarn exports, a result of the regional concentration of spinning in Lancashire and the peripheralization of Irish weaving. Following Irish success in reducing English cloth imports, the share of yarn in import penetration rose rapidly, from 1%–3% in the early 1780s, to 45% in 1790, and more than 67% in 1800. This helps explain the divergence of Irish growth rates in cotton, which was uncovered in the autocorrelation models (2) and (3) above.

The second phase, after 1816, accompanied the end of Irish protection and the mechanization of British weaving. Import penetration increased from one-third in 1815 to more than 80% in 1835. Between 1825 and 1835, there was a massive shift of British exports from yarn to cloth and clothing. While British yarn accounted for 72% of import penetration in 1825, cloth accounted for more than 80% by 1835. This remarkable change represents the consolidation of “cotton industry” as an integrated core activity, from transport through spinning, weaving, and finishing.

Ireland’s modest export trade in cotton cloth after 1816 did not reflect the industry’s health. Cloth exports rose after 1816 because the British market was protected before then. But these exports were the end product of putting-out, by Manchester during the 1820s and later by Scottish manufacturers trying to compete with mechanized English weaving. In time, Belfast weavers produced cloth rather than yarn, for Glasgow rather than Manchester (Geary 1989, p. 27). This was a Scottish adaptive response to the concentration of the English industry. Glasgow was peripheralized within the British industry, and Belfast subordinated to Glasgow until, finally, the subordinated Irish cotton cloth industry disappeared altogether.

---

distort the results. The distortion is limited by the price bounds of the major products (between 2s. 6d. for velvets, etc., and 1s. 3d. for mixed fabrics) and by the falling share of miscellaneous manufactures in total British cotton exports. If there is a bias, it is probably to overestimate the weights of miscellaneous manufactures in trade, because velvets and fustians made up a greater share of trade relative to mixed fabrics in 1833 than in earlier years. The bias is not very large, however, because mixed fabrics already were a small share of cotton manufacture and trade by the 1790s.

TABLE 1

BRITISH IMPORT PENETRATION OF IRISH COTTON MARKETS AND SHARES OF  
DIFFERENT COMMODITIES IN IMPORT PENETRATION, 1780-1835

Year	Import Penetration	Total Imports	Yarn Share	Calico Share	Muslin Share	Miscellaneous Manufacturers' Share
1780 .....	.2988	176,894	.0383	.0018	.0630	.8970
1781 .....	.6914	221,898	.0132	.0021	.0365	.9482
1782 .....	.3644	259,996	.0250	.0011	.0215	.9523
1783 .....	.3539	231,345	.0144	.0013	.0110	.9732
1784 .....	.2217	147,492	.0319	.0022	.0146	.9512
1785 .....	.2608	255,242	.0857	.0074	.0230	.8839
1786 .....	.2290	265,589	.1419	.0163	.0845	.7574
1787 .....	.2036	272,961	.1528	.0209	.0619	.7643
1788 .....	.1776	291,964	.2871	.0112	.0468	.6550
1789 .....	.2052	306,721	.2519	.0171	.0702	.6608
1790 .....	.2389	458,297	.4484	.0144	.0535	.4837
1791 .....	.3537	558,275	.5344	.0223	.0248	.4185
1792 .....	.2736	769,381	.4219	.0219	.0181	.5381
1793 .....	.3109	338,658	.5130	.0178	.0178	.4515
1794 .....	.2984	602,161	.5214	.0101	.0116	.4570
1795 .....	.4210	954,225	.6155	.0040	.0065	.3739
1796 .....	.4217	1,027,483	.6631	.0022	.0037	.3310
1797 .....	.3549	364,756	.5228	.0027	.0066	.4679
1798 .....	.4347	929,197	.5467	.0014	.0110	.4408
1799 .....	.5111	1,545,652	.6318	.0015	.0071	.3596
1800 .....	.3746	942,621	.6761	.0019	.0060	.3159
1801 .....	.4029	720,661	.5212	.0033	.0061	.4695
1802 .....	.4739	1,650,039	.6702	.0012	.0045	.3240
1803 .....	.4571	1,166,588	.6943	.0010	.0030	.3018
1804 .....	.4632	1,561,536	.7357	.0007	.0024	.2612
1805 .....	.5248	1,840,864	.7930	.0008	.0041	.2021
1806 .....	.4337	1,403,534	.7555	.0016	.0092	.2337
1807 .....	.2185	915,111	.6233	.0016	.0136	.3615
1808 .....	.4795	2,050,607	.7251	.0007	.0048	.2693
1809 .....	.4335	1,613,373	.6910	.0053	.0143	.2893
1810 .....	.2375	664,101	.4733	.0052	.0172	.5043
1811 .....	.3773	1,353,505	.6578	.0038	.0111	.3273
1812 .....	.4586	2,186,115	.7343	.0040	.0101	.2515
1813 .....	.4255	2,215,993	.7603	.0097	.0059	.2241
1814 .....	.3566	1,311,257	.7252	.0045	.0099	.2604
1815 .....	.3263	984,587	.6357	.0116	.0127	.3401
1816 .....	.3455	811,384	.6698	.0046	.0490	.2766
1817 .....	.3920	1,253,158	.6542	.0070	.0603	.2785
1818 .....	.4007	1,952,599	.6636	.0226	.0487	.2652
1819 .....	.4775	2,381,738	.7297	.0411	.0323	.1971
1820 .....	.3802	1,600,824	.7471	.0292	.0367	.1869
1821 .....	.4624	2,885,583	.8055	.0432	.0193	.1321
1822 .....	.4256	2,296,327	.7835	.0424	.0255	.1486
1835 .....	.8256	3,544,151	.2787	. . . *	. . . *	. . . *

\* Import penetration of all types of cloth (calico share, muslin share, miscellaneous manufacturers' share) = .8355. Data for 1835 were not adequate to allow calculation of each type separately.

## ACCESS TO THE RAW MATERIAL, LINKAGES, AND INNOVATION

I have argued that so-called national systems of innovation are produced by controlling peripheral and semiperipheral regions of the world-system. The hierarchical division of labor, where innovative activities aggregate in the core while supportive but noninnovative ones aggregate in the semiperiphery, requires the peripheralization of potential industrial competitors in the semiperiphery so that the core can maintain its monopoly of innovation. This can be achieved partly through market controls that allow import penetration and periodic dumping that destabilizes the semiperipheral environment for innovation while increasing the flexibility of the core producers. Two additional key strategies are important for the capture of innovation: preferential access to raw materials and the control of linked innovative industries.

Access to key raw materials is necessary for industrial growth. Since raw cotton cannot be grown in Europe, its access was a potential constraint on the growth of the industry, and most immediately on spinning. Unlike the inelastic supply of flax and wool, however, American cotton planters were able to increase their supply of cotton even faster than its rapidly expanding demand. England's advantageous access to this supply, and Ireland's lack of access, was a crucial reason why England could capture and localize innovations while peripheralizing the Irish industry. Under the navigation acts, British colonies were required to channel their trade with each other through England. This restricted them from developing a transatlantic merchant marine and commercial infrastructure. Even after U.S. independence and the repeal of the navigation laws, England maintained important competitive advantages in direct access to raw materials.

These advantages were increased by the efforts of the British Board of Trade to induce cotton cultivation in Asia, Africa, and America. From the 1780s, American planters reportedly got the idea that the British would do practically anything to secure a steady supply of cotton wool (Redford 1934, p. 217). After the saw gin made it economical to process upland cotton, the southern United States went, in a decade, from exporting no cotton to becoming Britain's major source of cotton by 1803 (Baines 1835, p. 302). When British consumption overtook U.S. supply, the British Board of Trade generated extra supplies from India, Brazil, Egypt, and elsewhere (Ellison 1886, p. 87; Redford 1934, pp. 217–28).

In the 1790s, as spinners increased their demands for consistent supplies of raw cotton and the importance of importers being close to spinners increased, cotton supplies became centralized in Liverpool (Edwards 1967, pp. 107, 110). Innovations in the organization of cotton supply accompanied its concentration in Lancashire. In the earliest years, im-

porters supplied spinners through dealers, who bought their raw cotton and resold it to spinners by auction or private sale. Most cotton before 1800 was bought in small lots of one or two bags. But as spinners got bigger they bought in bigger lots and demanded price discounts (Edwards 1967, p. 113).

As the influence of the larger spinners increased after 1800, brokers replaced dealers. Dealers were important for small spinners because they extended credit, but the larger spinners could afford to buy large lots of cotton at a discount with shorter credits. Such a system, however, required the improved organization of production and marketing that was possible only in large firms. Large spinners economized and increased their flexibility by keeping expensive cotton stocks in the hands of importers and brokers (an early example of just-in-time delivery) and by selling off their supplies to dependent smaller spinners (Edwards 1967, p. 104).

Increasingly, brokers sold cotton by sending samples to spinners on approval (Edwards 1967, p. 103). This system considerably decreased the turnover time of cotton distribution; a decision was usually expected before the day was out. And it increased the supply advantages of the biggest spinners close to Liverpool because a broker could get samples to his favored customers early in the day and keep the cotton from competitors until a purchasing decision was made (Ellison 1886, p. 177). Time economies—days or even hours—were already important in the 1790s.<sup>26</sup>

A consistently diverse supply of cotton was crucial for the competitive advantage of the larger Lancashire spinners. Their ability to spin a variety of weights of yarn gave them market flexibility when coarse yarns were in oversupply. Bigger scale, better technology, and skilled machine operatives enabled them to switch production more easily to different weights of yarn. They maintained access to cotton of various lengths and qualities by employing several brokers (Edwards 1967, p. 121). By 1800, there was a hierarchy of supply of raw cotton by the buyer's size and proximity to Liverpool—the most consistent and cheapest supply in Lancashire, higher prices in Glasgow, and the highest prices and most uneven quality in Ireland and beyond (Edwards 1967, pp. 107, 110). Canal and rail transport systems in Lancashire further increased differences in supply conditions. From the 1780s, Ireland became dependent on the British reexport trade, which was dominated by lower qualities of cotton, while English spinners retained the best cotton for their own use (Mann 1860, p. 88).

<sup>26</sup> Manchester manufacturers consistently complained about the possibility of foreign mails missing the Saturday coach from London, which would put them two days behind their London competitors in dealing with foreign inquiries (Redford 1934, p. 189).

Not only did British supplies of raw cotton grow more rapidly, but they were more stable than supplies to Ireland. This point is borne out if we compare the variance of supplies to each country. Autocorrelation models, using the log of cotton imports as the dependent variable and time as the independent variable, yield the following results for 1782–1822:

$$\begin{aligned} \text{Britain: } \ln(\text{COTTON IMPORTS}) &= 16.197 + .066\text{TIME} \\ &\quad (12.121) \\ &\quad R^2 = .899. \\ \text{Ireland: } \ln(\text{COTTON IMPORTS}) &= 13.387 + .044\text{TIME} \\ &\quad (6.575) \\ &\quad R^2 = .740. \end{aligned} \tag{5}$$

The TIME coefficient indicates that the rate of growth of British cotton imports was higher than that of Ireland, while the *t*-statistic of the TIME coefficients shows that the supply of cotton wool in Ireland was less stable than in Britain. Irish supply became particularly unstable after 1800. This increasing disadvantage in access to the key raw material for the spinning sector, which was a cumulative effect of English mercantilist policies that thrived under free trade, soured the Irish environment for innovation, regardless of considerable efforts to enhance it by the Irish state and its prospective industrial class.

Like the raw material, the Irish cotton industry became dependent on England for its linked inputs. This further isolated weaving from the more innovative parts of the industry. The other major sectors that comprised the cluster of innovations in early cotton—engineering and textile finishing—were also dominated by English core capital. Not only was the Irish industry less mechanized than the British, it relied on Britain for what machinery it had.<sup>27</sup> There was a particularly big traffic to Ireland in secondhand English steam engines and cotton machinery. Everyday supplies such as card brushes, rollers and spindles, full sets of mules, dressing machines, and mill gearing were also supplied from Manchester.

Irish weavers, even in Ulster, worked in homes and small weaving sheds even after power looms had displaced hand looms in England (Green 1944; Mokyr 1983, pp. 176–77).<sup>28</sup> The persistence of the hand loom was a rational response to the low price of Irish labor, which induced entrepreneurs to use a different factor mix than in England (Geary

<sup>27</sup> The ratio of steam to water horsepower was about 7.5:1 in Lancashire and 2:1 in Belfast (Geary 1989, p. 262).

<sup>28</sup> There were 2,000 power looms in Manchester by 1818 and 10,000 by 1823, but Irish weaving was done almost entirely by hand as late as 1831 (Monaghan 1942, p. 10).

1989, p. 262). But while it was rational to use cheap labor, given Ireland's exclusion from core innovations, the substitution of labor for machines was a semiperipheral adaptive response that further constrained the region's long-term participation in capitalist industrialization.

Like the control of trade, however, the control of machinery and concentration of engineering in Lancashire was explicit British policy. Cotton merchants and manufacturers, including the otherwise vehement Manchester free traders, opposed machinery exports and the emigration of skilled machinists to forestall foreign competition. The British state complied with comprehensive and rigorously enforced legislation (Musson and Robinson 1969; Redford 1934, pp. 131, 133). While Ireland had freer access to British machinery after the union of 1801, it had become dependent on British engineering and even the most advanced Irish producers remained a step or two behind the English industrial core.<sup>29</sup>

Most new Irish capital in the early cotton industry was concentrated in finishing. Worsted yarn merchants and merchants experienced in importing and marketing English goods made large investments in Cork and Dublin (Dickson 1976, pp. 105–6). These merchants made the short backward link into finishing cotton cloth that they could sell in their existing markets. But they depended on nonintegrated supply by unstable regional weaving industries. When British putting-out replaced its dumping of yarn, and especially when weaving was transferred outright to England, the finishers were vulnerable. The collapse of Irish spinning and especially weaving precipitated the end of finishing, regardless of its efficiency of operation.

It is possible to conclude that Ireland's limited success in the cotton industry was enabled by its proximity to a supply of cotton wool and technology that would not have been available had Ireland not had access to English imports. On the other hand, Ireland became dependent on a market for cotton wool that was organized to supply first the largest

<sup>29</sup> It is worth distinguishing the present analysis from product life-cycle models (e.g., Vernon 1966). These models imply a rather unilinear development pattern as semiperipheral countries adopt the technologies that are discarded by the core. The process I am describing in Ireland is not one in which the semiperipheral industry lagged behind the core but continued to move forward a couple of steps behind in the product cycle, thus achieving some form of "dependent development" or even limited "modernization." Rather, British imperial power peripheralized Irish cotton as it enabled the localization of innovations in the English core, ultimately leading to the destruction of an Irish industry which was previously growing apace with the English industry. Irish producers were moved out of the most profitable parts of cotton production for a time, until they were moved out of the sector altogether and into semiperipheral and peripheral economic activities. This describes a process that is more akin to the *development of underdevelopment* or *peripheralization* than to dependent development or modernization.



English spinners, and only after that the smaller and more distant spinners. It became a consumer of secondhand English machinery rather than a producer and user of the latest technologies. Without guaranteed access to high-quality cotton, rational investors could hardly be expected to innovate by supplying the capital and technology that would allow Irish spinning to compete with its main British rivals. Erratic supply left spinning capacity underutilized and contributed to the failure of spinning mills, causing the regional sector as a whole to be more inefficient than better-supplied regions.

Rather than a common source of supply creating equal conditions for England and Ireland, the fact that Irish spinners had to import their machinery and raw materials from Britain shows that they were dependent and helps explain their competitive disadvantages relative to the English core. If we substitute "depended on" for "had access to" in the following quote, which is meant to describe a fully integrated region of the British core, we see Belfast as a fully incorporated semiperipheral zone in the British-centered world-system: "Belfast producers had access to the channels of raw material supply and to the marketing techniques and markets being developed by British producers. They had access to the new technology and the skilled labour force to erect and maintain the machines embodying it. Finally they were well integrated into the developing British commercial and financial system. Events in Belfast were, then, influenced by events in Lancashire" (Geary 1989, p. 267). Ireland's unstable dependence on English channels of supply, however, was not simply a matter of geographical proximity. It was the result of the country's logical subordination to England through its incorporation in the world-system. This disabled Ireland, like other colonies and even noncolonies who were subject to British naval power, from establishing the commercial connections and naval capabilities that would enable access to raw materials from around the world.

Taken together with the disruptive effects of British yarn penetration on the Irish market, which increased as regional and global trade relations were liberalized, unstable cotton supply indicates Ireland's semiperipheral or dependent relationship with England. Ireland's semiperipheral incorporation, then, is a powerful explanation of why rational Irish cotton entrepreneurs—particularly in spinning—did not introduce innovations at nearly the same rate as British industrialists.

#### CONCLUSIONS: AGAIN ON CORE, SEMIPERIPHERY, AND INNOVATION

The British cotton industry is the classic case of a leading sector in which generalized economic growth is induced through innovations in a

cluster of linked activities. Linked innovations in engineering, transport, and distribution increased the level of throughput in mill-based cotton spinning, enabling economies of scale and speed. This version of the innovation story is a familiar explanation of why industry concentrated in certain core regions and not in others. It is the story of how a core nation achieves competitive advantage by introducing a national system of innovation that is better than those of other core nations. The actors are classes, entrepreneurs, developmental states, cultures, money, and markets of the core.

But another story is absent from this literature—the subjugation of semiperipheral and peripheral regions to support innovation in the core. In Ireland, this meant peripheralizing an industrial competitor so that it profitably complemented the innovative core sector, and its expansion required the extension of existing technologies and forms of organization. Even Belfast's mills used technologies and organizations that had become routine in England and Scotland. Irish semiperipheral weaving supported the intensification of English spinning by assuring the demand for yarn.

The localized focus of concepts such as “national systems of innovation” or “national competitive advantage” implies that states or firms that attain competitive advantage “do something right” while others “fail” to innovate. This is highly misleading. There was no such thing as a “national” system of innovation in cotton—many of the institutions that were necessary for the capture of innovation and its loss elsewhere were global.

The infrastructural support for innovation was global. The concentration of advantageous supplies of raw cotton around Liverpool, which enabled large spinners to attain competitive advantage, required the cumulative effects of the navigation laws and other restrictive (often militarily violent) efforts that increased British naval and commercial power while they weakened those of competitors. Increased and stable flows of materials of diverse quality were necessary for the larger mills to run efficiently and to respond flexibly to changing markets, and these flows required innovative global transport and communications networks that were controlled by the English core and policed by English sea power. Competing industrial centers that might divert cotton supplies were suppressed.

The demand conditions necessary for innovation were global. The capture of the local English market and the markets of empire required restrictions on production in regions such as Ireland and India until English producers attained competitive advantages. Then, the enforcement of free trade throughout the world-system gave the English industry its

freedom to sell and even dump goods in other markets. This followed a global cycle of protection and liberalization, as the economic ascendant (England) moved from controlling its zones of influence to global hegemony. The cycle was reproduced at the local level, first by direct controls over Irish productive and commercial activities and later by liberalizing trade so that English goods (now competitively advantageous) could freely enter. Liberalization in all of the English colonies was enforced by direct political mechanisms, although the specific mechanism in Ireland was its integration into a British free trade zone.<sup>30</sup> In Latin America and elsewhere, Britain enforced its market entry by more indirect means.

In conclusion, world-system analysis frees the theory of innovation from the restrictive assumption that innovation is national and, instead, relates core strategies to build zones of interest and global hegemony to their success at localizing innovations and suppressing them in competing regions (including semiperipheries). "National" systems of innovation have different results in the semiperiphery, where the "innovative" development of human and knowledge resources may simply result in emigration and brain drain; and the development of infrastructure may simply enable core firms and regions to extract new materials and the products of semiperipheral labor more efficiently, while marketing their own products more cheaply. On the other hand, the theory of innovation adds clarity to world-system analysis insofar as it distinguishes core from semiperipheral industry. The strategies employed to capture innovation and maintain competitive advantage additionally help explain how the hierarchy is reproduced.

But can lessons from the present case be generalized or is it simply interesting but special? The case distinguishes clearly between core and semiperiphery because both regions directly competed for a time in an ascending leading sector. In this respect it is special, but its peculiarities inform us about the strategies of core economies when semiperipheral competition becomes a threat. Japanese strategies to channel the South Korean electronics industry into subordinate and complementary activities (buying innovative Japanese technologies and microchips for assembly into electronic products) may parallel Ireland's subordination in weaving and linen. There may also be parallels to the methods used by

<sup>30</sup> The parallels to European economic integration after the Second World War and, more recently in the late 1980s and 1990s, have gone largely unnoticed. Perhaps this is because most analyses of European integration focus almost entirely on the European core (the equivalent of England and perhaps Scotland in the present analysis) and ignore the effects of integration on the European periphery (the equivalent of Ireland in the 18th and 19th centuries).

New England capital to localize the North American spinning sector in the 19th century, even though competing mills in South Carolina had lower wages, plentiful water power, and closer proximity to the raw material (see Wright 1979).

Another peculiarity of the present case is Ireland's spatial proximity to England, which allowed the latter to use direct integration to subjugate the Irish economy. The use of an act of political union to allow direct rule over a territory may sound more like world-empire than world-system,<sup>31</sup> but I believe this is mistaken. True, Ireland was integrated politically by the British state in 1801 as a means of asserting more effective control over the territory. But Britain employed direct controls throughout its empire before 1800 and liberalization and free trade after 1800 to realize its competitive advantages. Ireland was no different in this respect. Union was simply a means of subduing the Irish parliament and social movements, which had attained a degree of autonomy in economic policy-making that was not present in other parts of the empire. Throughout the history of its industrial subjugation, Ireland was peripheralized by the same means as other parts of the world-system—direct restrictions on commerce and industry and, once English competitive advantage was clearly established in the innovative sectors, the indirect mechanisms of free trade.

Moreover, world-system analysts explicitly choose regions, rather than nation-states, as their primary unit of analysis. Under certain conditions internal colonialism may be nearly equivalent to global imperialism as a means of localizing innovation. Again, the cases of New England and South Carolina, as well as those of other peripheral regions of Britain, have close parallels to the British subjugation of Irish cotton.

A more important result of Irish proximity may be that the ascendant settler class, many of whom retained their ties to and even domiciles in England, had unique opportunities as Irish entrepreneurs to compete in successive periods of core English expansion (cattle, wool, and cotton). In most peripheral or semiperipheral cases, competitive innovations occur less frequently—core regions must primarily defend against competing core regions rather than semiperipheral ones. Yet the Irish case clearly reveals the necessity of *localizing* innovations and, because of the tenacity of Irish competition, it reveals a world-system process that is usually much simpler and shorter and, therefore, less observable. All peripheral regions are continually peripheralized and reincorporated into the capitalist world-system as the precise nature of their relations with

<sup>31</sup> World empire is "a type of world-system in which the territorial economic network is largely contained within a single state apparatus" (Chase-Dunn 1990, pp. 348–49).

core regions and the world-system changes across time. Irish "reperipheralizations" were starker because they involved the destruction of Irish competitors in leading industrial sectors and their transformation into complementary semiperipheral activities such as linen.

There may be no single specific core strategy for achieving competitive advantage and, in the process, excluding other regions or states from participating. Indeed, I would expect that competitive advantage is achieved "by any means necessary." Yet economic ascendants and eventual hegemonists characteristically achieve and maintain their positions through the capture of markets, raw materials, and labor resources. Innovations create competitive advantages for regional core economies on the basis of economies of labor, fixed capital, materials, marketing, and administration. In contrast, peripheral or semiperipheral activities expand mainly by extending the use of labor and materials. The core-periphery division of labor in the early British and Irish cotton industries follows this pattern. England was not endowed with, but captured, its competitive advantages in access to materials and markets, skilled technicians, and experienced tradesmen and merchants. Ireland's advantages lay in cheap labor and plentiful water power (both of which may have worked against the introduction of labor- and energy-saving innovations). With the establishment of a semi-independent parliament, Ireland had a developmental state that was willing to protect its infant industries and provide inducements to new investments, essentially by introducing a "national system of innovation." Many Irish parliamentarians were men of property who hoped to become rich through cotton. Yet England's developmental state could not only protect its infant industries and their many linked suppliers and buyers, it could also provide a relatively stable global environment where these industries could obtain their raw materials and sell their product. The Irish developmentalist state could provide monetary incentives and local protection, while the British state provided the whole world-system.

## REFERENCES

- Amin, Samir. 1975. *Unequal Development*. New York: Monthly Review Press.
- Arrighi, Giovanni, and Jessica Drangel. 1986. "Stratification of the World-Economy: An Explanation of the Semiperipheral Zone." *Review* 10 (1): 9-74.
- Baines, Edward. 1835. *History of the Cotton Manufacture in Great Britain*. London: Fisher, Fisher & Jackson.
- Bengt-Ake, Lundvall. 1992. *National Systems of Innovation: Toward a Theory of Innovation and Interactive Learning*. London: St. Martin's.
- Berg, Maxine. 1994 *The Age of Manufacturers, 1700-1820: Industry, Innovation and Work in Britain*. London: Routledge.
- Blaug, Mark. 1961. "The Productivity of Capital in the Lancashire Cotton Industry during the Nineteenth Century." *Economic History Review* 13 (3): 358-81.

- Bornschier, Volker. 1992. "The European Community's Uprising: Grasping towards Hegemony or Therapy against National Decline in the World Political Economy?" Paper presented at the First European Conference of Sociology, Vienna, August 26-29.
- Brenner, Robert. 1977. "The Origins of Capitalist Development: A Critique of Neo-Smithian Marxism." *New Left Review* 104:25-92.
- Chandler, Alfred. 1962. *Strategy and Structure: Chapters in the History of the Industrial Enterprise*. Cambridge, Mass.: MIT Press.
- . 1990. *Scale and Scope: The Dynamics of Industrial Capitalism*. Cambridge, Mass.: Belknap Press.
- Chase-Dunn, Christopher. 1989. *Global Formation: Structures of the World Economy*. London: Basil Blackwell.
- Crawford, W. H. 1969. "The Rise of the Linen Industry." Pp. 23-35 in *Formation of the Irish Economy*, edited by L. M. Cullen. Cork: Mercier.
- Cullen, L. M. 1972. *The Emergence of Modern Ireland, 1600-1900*. London: Batsford.
- Davis, Ralph. 1962. *Rise of the English Shipping Industry in the Seventeenth and Eighteenth Centuries*. Newton Abbot: David & Charles.
- Deane, Phyllis. 1968. "New Estimates of Gross National Product for the United Kingdom, 1830-1914." *Review of Income and Wealth*, ser. 14, no 2: 95-112.
- Dickson, David. 1976. "Aspects of the Irish Cotton Industry." Pp. 100-115 in *Comparative Aspects of Scottish and Irish Economic and Social History*, edited by L. M. Cullen and T. C. Smout. Edinburgh: J. Donald.
- Dubourdieu, J. 1812. *Statistical Survey of the County of Antrim*. Dublin: Graisbery & Campbell.
- Durie, Alastair. 1976. "The Scottish Linen Industry in the Eighteenth Century: Some Aspects of Expansion." Pp. 88-128 in *Comparative Aspects of Scottish and Irish Economic and Social History*, edited by L. M. Cullen and T. C. Smout. Edinburgh: J. Donald.
- Edwards, M. M. 1967. *The Growth of the British Cotton Trade*. Manchester: Manchester University Press.
- Ellison, Thomas. 1886. *The Cotton Trade of Great Britain*. London: Wilson.
- Emmanuel, Arghiri. 1972. *Unequal Exchange: A Study of the Imperialism of Trade*. New York: Monthly Review Press.
- . 1974. "Myths of Development versus Myths of Underdevelopment." *New Left Review* 85:61-82.
- Farnie, D. A. 1979. *The English Cotton Industry and the World Market, 1815-96*. Oxford: Oxford University Press.
- Freeman, Christopher. 1987. *Technology, Policy, and Economic Performance*. New York: Pinter.
- Galtung, Johan. 1971. "A Structural Theory of Imperialism." *Journal of Peace Research* 8 (2): 91-154.
- Geary, Frank. 1981. "The Rise Fall of the Belfast Cotton Industry: Some Problems." *Irish Historical Studies* 8:30-49.
- . 1989. "The Belfast Cotton Industry Revisited." *Irish Historical Studies* 26:103, 250-67.
- Gill, Conrad. 1925. *The Rise of the Irish Linen Industry*. Oxford: Clarendon.
- Green, E. R. R. 1944. *The Lagan Valley*. London: Faber & Faber.
- Hirschman, Albert. 1958. *The Strategy of Economic Development*. New York: Norton.
- Hopkins, Terrence, and Immanuel Wallerstein. 1986. "Commodity Chains in the World Economy prior to 1800." *Review* 10 (1): 157-70.
- Irish Customs. Various years. *Exports and Imports of Ireland, 1763-1824*. Handwritten vols., by year. National Library of Ireland, Dublin.

- Irish Railway Commissioners. 1837. *Second Report of the Commissioners Appointed to Consider and Recommend a General System of Railways for Ireland*. National Library of Ireland, Dublin.
- Kearney, H. F. 1959. "The Political Background to English Mercantilism, 1695–1700." *Economic History Review* 11:484–96.
- Kelly, Patrick. 1980. "The Irish Woollen Export Prohibition Act of 1699: Kearney Revisited." *Irish Economic and Social History* 7:22–44.
- Laclau, Ernesto. 1971. "Feudalism and Capitalism in Latin America." *New Left Review* 67 (May–June): 19–38.
- Landes, David. 1969. *The Unbound Prometheus: Technological Change and Industrial Development in Western Europe from 1750 to the Present*. Cambridge: Cambridge University Press.
- Lange, Oscar. 1943. "A Note on Innovations." *Review of Economic Statistics* 25: 19–25.
- Lazonick, William. 1991. *Business Organization and the Myth of the Market Economy*. Cambridge: Cambridge University Press.
- Mandel, Ernest. 1975. *Late Capitalism*. London: Verso.
- Mann, J. A. 1860. *The Cotton Trade of Great Britain*. London: Simpkin, Marshall.
- Mass, William, and William Lazonick. 1990. "The British Cotton Industry and International Comparative Advantage: The State of the Debates." *Business History* 32, no. 4 (October): 10–65.
- McMichael, Philip, James Petras, and Robert Rhodes. 1974. "Imperialism and the Contradictions of Development." *New Left Review* 85:83–104.
- Mokyr, Joel. 1983. *Why Ireland Starved: A Quantitative and Analytical History of the Irish Economy, 1800–1850*. Boston: Allen & Unwin.
- Monaghan, J. J. 1942. "The Rise and Fall of the Belfast Cotton Industry." *Irish Historical Studies* 3, no. 9 (March): 1–17.
- Murray, John. 1870. *Handbook for Shropshire, Lancashire and Cheshire*. London: Murray.
- Musson, A. E., and E. Robinson. 1969. *Science and Technology in the Industrial Revolution*. Manchester: Manchester University Press.
- Porter, Michael E. 1990. *The Competitive Advantage of Nations*. New York: Free Press.
- Redford, Arthur. 1934. *Manchester Merchants and Foreign Trade*. Manchester: Manchester University Press.
- Schumpeter, Joseph. 1939. *Business Cycles*. New York: McGraw-Hill.
- . 1947. "The Creative Response in Economic History." *Journal of Economic History* 7, no. 2 (November): 149–59.
- Van Duijn, J. J. 1983. *The Long Wave in Economic Life*. London: Allen & Unwin.
- Vernon, Raymond. 1966. "International Investment and International Trade in the Product Cycle." *Quarterly Journal of Economics* 80:190–207.
- Wallerstein, Immanuel. 1979. *The Capitalist World-Economy*. Cambridge: Cambridge University Press.
- Warren, Bill. 1973. "Imperialism and Capitalist Industrialization." *New Left Review* 81:3–44.
- Wright, Gavin. 1979. "Cheap Labor and Southern Textiles before 1880." *Journal of Economic History* 39, no. 3 (September): 655–80.

# Sheltered Labor Markets, Public Sector Employment, and Socioeconomic Returns to Education of Arabs in Israel<sup>1</sup>

Noah Lewin-Epstein and Moshe Semyonov  
*Tel Aviv University*

This study expands the theoretical discussion of ethnic economies by focusing on public sector employment and the role the state plays in affecting the socioeconomic fortunes of ethnic minorities. The authors argue that under certain circumstances public sector employment helps ethnic minorities attain higher socioeconomic rewards. The findings of the study indicate that Arab employees in Israel receive higher returns to education in the ethnic labor market, compared with the dominant market, and in the public sector rather than the private sector. The latter result also holds true when Arab workers are compared to Jews, revealing the benefits derived from the sheltered labor market.

## INTRODUCTION

The Arab minority constitutes just over 17% of the population of Israel and is subordinate to the Jewish majority in every facet of stratification. More specifically, Arabs attain fewer years of formal schooling and generally receive lower-quality education (Shavit 1990), they hold less lucrative and less prestigious positions in the occupational structure (Lewin-Epstein and Semyonov 1986; Semyonov and Lewin-Epstein 1989), and their income and standard of living are considerably lower than those of Jews. Furthermore, Arabs are disadvantaged in comparison to Jews in the attainment of socioeconomic rewards. That is, their occupational status and earnings are considerably lower than those of Jewish workers

<sup>1</sup> An earlier version of this paper was presented at the meetings of the ISA Research Committee on Social Stratification in Trondheim, Norway, May 20–22, 1993. We wish to thank Tami Sagiv-Schifter for her assistance in data analysis. This paper benefited from helpful suggestions provided by Yinon Cohen, Yitchak Haberfeld, and three *AJS* reviewers, but the authors take full responsibility for any shortcomings that still remain. Correspondence regarding this article should be addressed to Noah Lewin-Epstein, Department of Sociology and Anthropology, Tel Aviv University, Ramat Aviv, P.O. Box 39040, Tel Aviv 69978, Israel.



with the same social and demographic characteristics (Lewin-Epstein and Semyonov 1992a; Semyonov and Cohen 1990).

The purpose of this paper is to identify labor market structures that are relatively advantageous for the Arab population. Specifically, we examine the roles of highly segregated ethnic labor markets and of the public sector in providing job opportunities and higher returns to human capital resources for members of the minority population. By so doing we aim to contribute to an understanding of the impact of labor market structure on ethnically related socioeconomic inequality not only in Israel but in other multiethnic societies as well.

### BACKGROUND

The Arab minority is residentially segregated from the Jewish majority. Approximately 85% of the Arab population reside in village communities and small towns. In fact, only seven of the 101 urban localities in Israel are administratively defined as mixed communities, while all other communities are either Jewish or Arab. This extreme residential segregation originated in the "pre-state" period. Jews who migrated to Palestine at the turn of the century chose to establish their own communities and to develop a separate economy. The contradictory interests of the two peoples fueled bitter conflicts that peaked in the war for Israel's independence. While Jewish-Arab relations in Israel have undergone many changes, the patterns of residential segregation have remained largely unaltered throughout the years.

It is safe to say that most Jewish and Arab citizens of Israel endorse residential segregation for national and cultural reasons. In a 1985 population survey, 30% of the Arab public and 50% of the Jewish public expressed the opinion that Arabs and Jews should reside in separate neighborhoods, and an additional 30% of either group were undecided (Smootha 1992). Although segregation is in large part voluntary, the residential patterns also reflect the dominant-subordinate relationship of Jews and Arabs. Arabs are interested in integration more than Jews are willing to permit. In the few known cases where Arab families have tried to move into Jewish communities, they met with strong opposition (Rosenfeld 1988).

The separation of Jews and Arabs is not only ecological but cultural as well. The population we here refer to as Arab is comprised of three major religious subgroups. Muslims constitute the largest group, accounting for three-quarters of the Arab population of Israel. Approximately 13% of the Arabs are Christian, and the Druze make up the remaining 10% (other groups, such as the Cherkesse, are rarely identified separately due to their small numbers). Christians are more urban than either Mus-

lims or Druze. They have lower fertility, attain higher levels of education, and have higher labor force participation rates.

Israeli Arab culture is deeply rooted in the broader Arab culture, and Arabic is considered the primary legitimate language. For Muslims and Christians, in particular, use of Arabic serves as an important expression of their national identity (Ben-Rafael 1994). Arab children are generally educated in Arabic-speaking schools where Hebrew is a compulsory second language. Arabic is the predominant vernacular in all Arab communities, and Hebrew is used when interacting with Jews (with Jewish employers, with Jewish clientele, and when shopping in the predominantly Jewish urban centers). Since most Jews do not speak Arabic, the Arabic language is not only a culture device but also serves as a barrier for Jewish economic activity in Arab communities (e.g., competition for jobs).

Arab communities are generally distant from major urban centers. Approximately half the Arab population resides in the northern region of Israel, and some 10% are located in the south. Most Arab urban communities are in fact oversized villages, and they lack the infrastructure needed to promote development. Consequently, the Arab economy is characterized by limited economic opportunities and an underdeveloped industrial base. Until recently the Arab economy was mostly a village economy catering to its own needs. Over the years, however, the agriculture sector shrank while manufacturing and commerce grew only marginally. Currently, the private sector in the Arab labor market is minute, and many of the private enterprises are small family-run sewing shops or construction material producers (Haidar 1990; Meyer-Brodnitz and Czamanski 1986). The scanty opportunities in Arab communities compel many workers to seek employment outside the Arab economy. Over 50% of the Arab workforce commute to work and find employment in Jewish communities (Lewin-Epstein and Semyonov 1992a; Semyonov 1988).

In recent years public services have become the leading economic branch in the Arab economy, accounting for almost 40% of all jobs in the Arab labor market. Indeed, local government and state agencies are currently the largest employers in the Arab sector. State agencies (in Arab communities) such as education, health, and welfare employ mostly Arabs and hence exert considerable control over job opportunities for the Arab population. Expansion of these opportunities is often politically motivated and is frequently responsive to the requests of the Arab electorate from its party representatives. Hence, when educated Arabs are faced with labor market hardship, expansion of the public sector in the Arab community also serves as a strategy of co-optation and control (Lustick 1980). Local government has expanded with the growth of the Arab population and the rise in the demand for services. Moreover, jobs in

local government have sprouted in part as a result of pressure from below (family members of the politically connected, university graduates, etc.) for employment opportunities.

Surprisingly, despite the limited opportunity structure of the Arab economy, research has revealed that Arab workers employed in Arab communities are occupationally advantaged relative to other workers (Semyonov 1988; Semyonov and Lewin-Epstein 1994). That is, Arabs employed in the segregated ethnic market are able to attain jobs of higher status and prestige than those employed in the dominant economy (i.e., the mainstream economy of Israel controlled by the Jewish majority), and they receive higher returns to their human capital resources (see also Shavit 1992). Evidently, the spatial and cultural segregation of Arabs, coupled with the particular structure of the ethnic economy, yields certain advantages, the nature of which we pursue in this article.

Ethnic economies are embedded in the social, political, and economic context of each society. Hence, the case of the Arab minority in Israel provides us with a rare opportunity to contribute to the literature on ethnic economies from a comparative perspective and to extend the application of this abstraction to additional phenomena. In the analysis that follows we evaluate the pertinence of the different market mechanisms that operate in the ethnic economy to provide subordinate minorities with socioeconomic advantages. The specific study reported here will enable us to highlight the impact of the public sector in the sheltered economy on the distribution of socioeconomic outcomes and rewards. Before turning to the empirical examination, however, it is necessary to describe in detail the theoretical underpinnings of the perspectives brought to bear on the present case.

## PERSPECTIVES ON ETHNIC LABOR MARKETS

Students of ethnic inequality have long viewed spatial segregation as a structural device through which minorities are denied access to economic opportunities and rewards. Subordinate ethnic populations are likely to reside in places with limited industrial base, scarcity of jobs, and peripheral industries. Consequently, employment in the ethnic economy is generally associated with lower earnings than employment outside the ethnic labor market. Indeed, a series of studies have repeatedly demonstrated a negative association between minority concentration and economic outcomes (e.g., Lewin-Epstein 1986; Lewin-Epstein and Semyonov 1992a; Nachmias 1979; Tienda and Lii 1987; Tienda and Wilson 1992).

At the same time, however, spatial and social segregation can facilitate the development of a sheltered economy. One way in which segregation may provide benefits to a subordinate minority is through limiting compe-

tition from members of the superordinate group. For example, Aldrich et al. (1985) pointed out (with regard to ethnic retail trade in urban Great Britain) that residential concentration and cultural affinity of the ethnic minority are powerful determinants of protected ethnic markets. Since members of the dominant ethnic group are not likely to seek jobs in the minority ethnic market, competition is minimized. In the absence of competition, members of the minority population can enjoy job opportunities otherwise denied them (Semyonov 1988; Waldinger 1987).

Not only is the ethnic minority in residentially concentrated areas sheltered from competition with the superordinate group, but concomitantly the daily needs in the ethnic community generate job opportunities across the entire range of the occupational hierarchy. In Lieberman's words (1980, pp. 297-98), "As the group gets larger it is likely to develop certain internal strengths that will support some occupational activities even if outsiders are totally against their holding the position. Hence, if the black population base is large enough, there will be support for black doctors, black clergy and so on, even if they remain totally unacceptable to others. Likewise, there will develop certain entrepreneurial possibilities and other employment shifts will occur." In the ethnic labor market, members of the subordinate group fill not only low status, manual jobs but also managerial administrative and professional positions. According to this view, places with high minority concentration can provide workers with a measure of protection from discrimination and can serve as sheltered labor markets.

Research on ethnic segregation has traditionally utilized the general notion of competition with the dominant group (or absence thereof) to explicate the social position of minority members (Blalock 1967; Frazier 1957; Lieberman 1980). Recent work on ethnic minorities in North America, however, has drawn attention to entrepreneurship and economic organization of the ethnic communities as a particular mechanism by which ethnic groups can mitigate socioeconomic disadvantage (e.g., Light and Bonacich 1988; Model 1992; Portes and Bach 1985; Wilson and Martin 1982). In this body of literature the achievements of ethnic minorities are examined within the context of "ethnic economies." These ethnic economies are often referred to as "ethnic enclaves," and they occupy a unique and somewhat autonomous position within the larger economy. Ethnic enclaves have variously been defined in terms of place of residence (Sanders and Nee 1987), place of employment (Portes and Jensen 1987), or in terms of industrial concentration (Zhou and Logan 1989). However, the key conceptual factor in the literature on ethnic enclaves appears to be ethnic entrepreneurship (Light and Bonacich 1988): that is, ethnic minorities' ability to create their own economic subsystem based primarily on small businesses owned by ethnic entrepre-

neers who employ coethnic workers. Under these circumstances, ethnic sentiments and solidarity ensure that the antiminority discrimination experienced by ethnic workers elsewhere in the economy will be absent from this setting.

The emphasis on the private sector and the importance given to entrepreneurial activity in the sociological literature on North America are not surprising in view of the predominance of the free-market economy in the United States. In the case of the Arab minority in Israel, however, the public sector seems to play an important role in mediating the relationship between ethnic group membership and socioeconomic outcomes. Hence, the case of the Arab minority in Israel provides us with an opportunity to evaluate the ways in which the public sector, embedded in the ethnic economy, affects socioeconomic rewards of the minority population. This issue is especially interesting in light of the importance a separate body of literature attributes to the public sector, and government employment in particular, as a mobility channel for minority populations (Eisinger 1986; Jones 1993; Maume 1985; Moss 1988; Wilson 1978).

#### THE PUBLIC SECTOR AND ETHNIC MINORITY EMPLOYMENT

Two features of the public sector are central to understanding its role as a preferred locus of employment for ethnic minorities in liberal democratic societies. The first quality derives from the bureaucratic nature of governmental organization (see Viteretti 1979; Eisinger 1986) and its greater commitment to universalistic criteria of recruitment and promotion (see Blank 1985; Maume 1985; Zwerling and Silver 1992). Wilson (1978) has pointed out that the expansion of the government sector in the United States has meant that a greater percentage of high-paying jobs became available to the black middle class (see also Boyd 1991). Indeed, the public sector was found to be more open and to generally operate according to principles of equality. Blank (1985), for example, has pointed out that the state appears to be more effective in enforcing universalistic guidelines concerning the employment of disadvantaged groups (e.g., ethnic minorities and women) and in adopting affirmative action policies in the public rather than the private sector. Hence, minority employees are more likely to be attracted to the public sector and are more likely to be found in federal, state, and local government.<sup>2</sup>

<sup>2</sup> We propose here that whether or not discrimination against ethnic minorities exists in the public sector has to do primarily with political and social agendas (e.g., affirmative action in the United States). Precisely because government agencies do not seek to maximize profits, they can pursue a policy of equal pay to ethnic minorities and can offer them compensation in excess of the minimum necessary to attract them in terms of the competitive market wage (e.g., Abowd and Killingsworth 1985; Asher and Popkin 1984).

In recent years closer attention has been given to the role of government in labor market performance and specifically to the centrality of state policies in accounting for international differences in service-sector employment (Esping-Andersen 1990; Rein and Rainwater 1987). The public sector offers labor contracts and pays wages like any other employer, but lack of a profit motive "and the sheer inoperability of the conventional productivity-logic mean that orthodox economic models of the labor market hardly apply" (Esping-Andersen 1990, p. 157). Consequently, the state may foster public sector expansion in order to achieve political goals. Hence, the second feature of interest here concerns the political leverage that often characterizes the public sector (Dye and Renick 1981; Bobo and Gilliam 1990). To the extent that the public sector is controlled by political actors, constituents may affect allocation decisions by applying pressure on elected officials.

Political allocation may help explain why the federal government can make better job offers and have higher minority employment relative to other employers. Indeed, this may be a deliberate policy to accommodate the minority community in regions where the minority political clout is greater (e.g., Abowd and Killingsworth 1985, p. 81). In the context of segregated communities, the ethnic minority has considerable control over local government and the jobs it provides. In the context of the United States, for example, Eisinger (1986, p. 170) has pointed out that "it is possible that the local civil service, with its more abundant jobs, swifter rate of job growth, and greater sensitivity to local political conditions than the federal system, has functioned as a true mobility channel."

Eisinger's (1986) findings indicated that blacks employed in the public sector achieved, on average, higher occupational status than their siblings employed in the private sector. Similarly, Asher and Popkin (1984) found that the U.S. Postal Service (unlike the private sector) paid nonwhites and women wages similar to those paid to white men with comparable qualifications. They attributed the Postal Service wage "premium" to its nondiscriminatory wage policy. Maume (1985) has further suggested that when local government makes up a substantial portion of the local economy, employment of minorities is likely to increase due to affirmative action policies.

In Israel the government has long practiced what Kretzmer (1990) termed "institutional discrimination" against Arabs, manifest in budgetary decisions and resource allocation, at the group level. With respect to employment, the government has not established an affirmative action policy. Yet, it is illegal in Israel to discriminate against workers on account of age, sex, religion, or ethnicity. Due to the sensitivity of government to domestic politics, and the greater scrutiny of its actions, the

public sector is more likely than the private sector to adhere to formal equality in treating Arab employees. More importantly, the considerable segregation of Jews and Arabs and the localization of many public services, such as education and welfare, have provided the Arab population substantial leverage in demanding public sector jobs.

The above conceptualization of the public sector in the context of an ethnic economy draws out some similarities to the theoretical construct of "ethnic hegemony" proposed by Jiobu (1988), although his concept was developed with a view to ethnic entrepreneurship. The idea of hegemony places substantial emphasis on ethnic control. It refers to economic activity controlled by an ethnic minority, where the market has a disproportionately large number of ethnic employers (particularly small entrepreneurs) and employees and where internal labor markets emerge. Jiobu places strong emphasis on the ability of the group to interface with the majority and to concentrate on producing goods or services that are in high demand in the majority population. Under these conditions the minority can succeed economically even in the face of adverse attitudes. In the ethnic hegemonic market, it is argued, ethnic employees receive higher returns than in the dominant economy.

We propose that under certain circumstances the above notion may be applied to the public sector as well. When ethnic minorities are segregated and the public sector reaches a large enough size, the ethnic community may gain hegemony over portions of the public sector, and this in turn provides individuals access to opportunities otherwise unavailable to them. Indeed, the presence of a large public sector in communities where ethnic minorities make up a large proportion of the population generally provides minority members with better access to opportunities (Maume 1985).

## HYPOTHESES

The analytical models utilized in this study derive from the status attainment and the human capital framework (Blau and Duncan 1967; Becker 1975; Mincer 1974). In view of the emphasis this paradigm places on education (a central indicator of human capital) and the significance of differential labor market regimes for the outcomes of ethnic minorities, we focus in the present study primarily on status and earning returns to education. Following the logic embodied in the perspectives outlined in the previous section, it is possible to derive explicit, although not necessarily contradictory, hypotheses regarding the socioeconomic returns to education in different market situations.

According to the sheltered labor market perspective, we expect that socioeconomic returns for Arab workers would be higher in the ethnic

economy than in the dominant economy. This result should hold for both the public and the private sectors.<sup>3</sup> In the absence of competition, workers employed in the ethnic economy will command higher returns to human capital resources (e.g., education). According to the perspective that regards the public sector as a mobility channel for members of the subordinate minority, we would expect returns to human capital resources to be higher in the public sector, both in the ethnic and the dominant economy.

The two hypotheses outlined above seem to emphasize different market mechanisms that determine socioeconomic rewards of the minority population. The two hypotheses, however, should not be viewed as mutually exclusive. Following the theoretical reasoning discussed earlier, it is reasonable to expect that sector of employment will interact with type of labor market to produce divergent patterns of socioeconomic attainment. In fact, proponents of the ethnic enclave approach argue that advantages for workers in the ethnic economy derive primarily from both cultural affinity binding entrepreneurs and their coethnic workers and from the economic linkages between firms in the ethnic labor market. According to this logic, we expect Arabs employed in the private sector in the ethnic economy to receive relatively higher returns than other workers.

On the basis of the arguments concerning the public sector, we hypothesize that employment in the public sector in the ethnic labor market will be most advantageous to minority workers. The high level of concentration of the ethnic minority in certain communities provides them some measure of control over the political and bureaucratic apparatus. This control, in turn, leads to better access to employment opportunities in the public sector, in general, and to positions of high status, in particular. Following this logic, in the absence of strong affirmative action policies, on the one hand, and the political allocation of public resources, on the other hand, the public sector in Arab communities may serve as a primary mechanism for rewarding members of the subordinate group. Consequently, we expect that returns to human capital resources will be

<sup>3</sup> We propose that the advantage holds for the private sector as well as the public sector, even though, as one reviewer noted, ethnic economies are typically made up of economic undertakings in peripheral industries (Waldinger, Aldrich, and Ward 1990). It is possible, hypothetically, that the minority workforce employed in the dominant economy would concentrate in core industries, in which case the industrial composition of minority workers in and out of the ethnic economy would result in socioeconomic advantages for those employed outside the ethnic economy. We believe, however, that ethnic minorities are generally overrepresented in peripheral industries not only in ethnic economies but in the dominant economy as well. In the case of Arabs in Israel we found that approximately equal proportions (65%) of those who worked in the private sector in and out of the ethnic economy were employed in peripheral industries.



higher in the public sector within the ethnic economy than in other settings.

#### DATA AND VARIABLES

Data for this study were obtained from the public use sample of the 1983 Israeli population census (Central Bureau of Statistics 1983).<sup>4</sup> Analyses are limited to the Arab population between 25 and 64 years old who resided in communities with more than 5,000 residents.<sup>5</sup> Individuals selected for the extensive interview provided detailed information on education, employment status, place of employment, occupation, and earnings. This information forms the basis for the variables included in our study.

Two dependent variables are examined in the analyses carried out in the paper—occupational status and earnings. *Occupational status* is measured by the socioeconomic index for occupations in Israel (Tyree 1981), and scores are given at the three-digit classification level. The scale ranges from 0 (low status) to 100 (high status). *Earnings* are measured as the natural logarithm of the gross monthly earnings from employment (measured in Israeli shekels).

The predictive variables included in the analyses are those traditionally utilized in status attainment and earning equations. They include education, age, potential labor market experience, hours of work, knowledge of Hebrew, and religious affiliation. *Education* is the number of years of formal schooling. *Age* is measured in years at the last birthday. For lack of more specific information, we defined *potential experience* as [age - (education + 6)]; it replaces age in the earnings equations. We added the square of potential experience to the equations to tap the nonlinear relationship between experience and earnings. *Hours of work* is the usual number of hours worked per week. *Knowledge of Hebrew* is a dichotomous variable with the value of "1" for speaking knowledge and "0" otherwise. As noted earlier, Arabic is the spoken language in Arab communities, while Hebrew is generally required when interacting in the dominant (mainstream) economy. Hence, knowledge of Hebrew probably exerts a differential effect on the compensation Arab employees receive in the two market segments (for a discussion of language skills and labor

<sup>4</sup> The public use sample is based on a 20% random sample of all households enumerated in the census. All persons over 15 years old in the selected households were required to supply detailed social and demographic information in addition to the standard census form.

<sup>5</sup> At the time of data collection slightly over 70% of the Arab population of Israel resided in these communities (Central Bureau of Statistics 1984, table II/10).

market outcomes see Evans [1987]). *Religion* is a dichotomous variable for which Christian Arabs receive the value "1," and all others (mostly Muslims) receive the value "0." The purpose of including this variable is to control for unobserved cultural and social differences that may covary with some of the other predictive variables.

We defined the *ethnic labor market* on the basis of location; it includes the 34 urban Arab communities (those with a population of 5,000 or more). We classified Arabs employed in the 60 urban all-Jewish communities and in the seven mixed-population communities (which include some of the largest cities in Israel, such as Jerusalem and Tel Aviv) as part of the dominant labor market.<sup>6</sup> Arab workers who reside in Arab communities and whose place of employment was not specified we considered to be part of the ethnic labor market.<sup>7</sup> We defined the *public sector* as public services and operationalized it on the basis of the industrial classification. It includes all public and community services, such as local government, education, welfare, and health services. Persons employed in all other industries were included in the private sector.

## FINDINGS

### Descriptive Overview

Before we examine the particular hypotheses advanced in the previous section, a brief review of the major attributes of Arabs employed in the various labor markets is in order. The figures in table 1 reveal that just under half of the Arab workers in our sample (48% of the men and 49% of the women) are employed outside Arab communities in what we refer to as the dominant labor market. The locus of the labor market (whether in ethnic communities or the dominant economy) clearly interacts with sector type so that for men and women alike the public sector provides a larger proportion of jobs within the ethnic labor market than outside it. In the ethnic labor market, 28% of men and 74% of women are employed in public sector jobs. Outside the ethnic labor market public sector jobs account for 24% of employed Arab men and 51% of employed Arab women.

<sup>6</sup> It is important to note the ethnic overlap between communities and business ownership. According to Meyer-Brodnitz and Czamanski (1986), approximately 84% of manufacturing workshops and factories in Arab communities were locally owned, as were practically all retail and service businesses. Arab-owned establishments made up a negligible fraction of the dominant economy.

<sup>7</sup> The overwhelming majority of Arab workers who reside in Arab communities and whose place of employment was not known were in the transportation and construction industries, where, indeed, it is difficult to specify a single place of employment. Hence, we assume their base location to be their community of residence and consider these workers as part of the ethnic labor market.

TABLE 1

## MEANS OF VARIABLES

VARIABLES	ARAB MEN			ARAB WOMEN		
	Ethnic Labor Market		Dominant Labor Market	Ethnic Labor Market		Dominant Labor Market
	Public	Private		Public	Private	
Earnings (ln) .....	10.07* (.60)	9.73 (.59)	9.88 (.59)	9.77* (.63)	9.19 (.82)	9.65 (.73)
Occupational SES .....	55.57* (23.29)	30.56† (12.00)	43.53 (25.03)	58.38* (19.50)	31.03 (12.80)	51.65 (22.81)
Education (years) .....	11.83* (5.13)	7.34† (3.58)	10.50 (5.63)	12.20* (3.67)	7.95 (4.81)	11.82 (4.78)
Age .....	37.06 (9.72)	37.17 (9.22)	38.75* (10.20)	34.03‡ (8.58)	34.02† (8.66)	37.16 (10.18)
Hours of work (per week) .....	38.00* (12.97)	44.52† (11.72)	43.21 (11.17)	31.00* (11.43)	40.24 (13.25)	40.89 (12.81)
Christian (%) .....	.18‡ (.39)	.17† (.38)	.22 (.41)	.44‡ (.49)	.48† (.50)	.63 (.48)
Use of Hebrew (%) .....	.57 (.49)	.57 (.49)	.51* (.50)	.41‡ (.49)	.43† (.49)	.56 (.49)
N .....	1,837	6,101	1,297	801	349	516

NOTE.—Nos. in parentheses are SDs.

\* Differences between this segment and all others are significant at  $P < .05$ .† The private sector in and out of the ethnic labor market differ significantly at  $P < .05$ .‡ The public sector in and out of the ethnic market differ significantly at  $P < .05$ .

A comparison of the attributes of employees in the various market segments reveals considerable variations among the subpopulations. The most noticeable difference is between those employed in the public sector in the ethnic market and all other workers. Members of the former group—whether men or women—attained the highest levels of schooling, enjoy the highest levels of earnings, and hold the highest status jobs. Concomitantly, workers in the public sector work fewer hours per week than workers in other segments of the economy. By contrast, workers in the private sector, especially in the Arab market, have low levels of education and receive modest socioeconomic rewards. The low levels of earnings in the private sector are even more apparent when the number of hours worked per week is taken into consideration.

Although the comparison between economic sectors reveals similar patterns for men and women, the figures in table 1 also present some interesting gender differences. Not surprisingly, women work fewer hours per week than men in every segment of the labor market, and the gender difference is most pronounced in the public sector. Women in the labor force are also more educated than men (as a result of the selective nature of female labor force participation), and their occupational status is generally higher, especially in the public sector. Nonetheless, the earnings of women are substantially lower than the earnings of men in every segment of the economy.

Figures in table 1 disclose a higher proportion of Christian workers in the dominant labor market. This reflects the fact that Christian Arabs are more likely than Muslims to reside in some of the largest communities of Israel (such as Tel Aviv–Jaffa and Haifa), which are mixed communities and are classified as part of the dominant labor market. The proportion of Christians is especially high among women, since labor market participation of Christian women is substantially higher than that of Muslim women (Lewin-Epstein and Semyonov 1992*b*).

### Returns to Education

*Occupational status.*—In order to examine the hypotheses concerning the effect of the sheltered market and the public sector on occupational attainment, we estimate three multivariate covariance models. Coefficient estimates for the models are presented in table 2 and are listed separately for Arab men and Arab women. In model 1 we test the hypothesis that the ethnic labor market shelters the minority and ensures higher returns to education. Thus, the model includes the type of labor market and three interaction terms, along with personal attributes (i.e., education, age, and religion). Two of the interaction terms capture the use of Hebrew inside and outside the ethnic labor market (the comparison group

is no use of Hebrew). The third term, the interaction of education and labor market, estimates the extent to which returns to education differ in the ethnic labor market and outside it. Model 2 tests the hypothesis that the public sector provides the ethnic minority with socioeconomic advantages and with higher returns to education. In this model, sector of employment (whether public or private) and the interaction between education and sector are added to the individual attributes. Finally, in model 3 we compute a covariance model in which the public sector and ethnic labor market are replaced by a set of dummy variables that classify the four combinations of market and sector type. The comparison group is the public sector in the ethnic labor market, and the dummy variable representing this segment is excluded from the model. Interactions of the dummy variables with education are also added to the model. Model 3 tests the hypothesis that status returns are higher in particular labor market segments (e.g., the private sector in the ethnic labor market).

The results from models 1 and 2 lend support to the hypotheses that returns to education are higher in the ethnic labor market and in the public sector. The figures indicate that both the ethnic labor market and the public sector have significant effects on occupational status, although they differ somewhat for men and women. Occupational status returns to education are substantially higher in the ethnic labor market than outside it (only for men) and in the public sector than in the private sector (for both men and women). However, the impact of sector (public vs. private) on returns to education is substantially higher than that of type of labor market (ethnic labor market vs. dominant labor market). This difference is evident from the coefficients for the respective interaction terms ( $b = 2.37$  vs.  $b = 0.55$  for men and  $b = 2.17$  vs.  $b = 0.30$  for women). These differences are also manifest in the coefficient of determination ( $R^2$ ) for the two models.

Although the data from models 1 and 2 are quite revealing, they do not inform us whether specific combinations of type of labor market and sector of employment produce different returns to education. Thus, in model 3 we test whether returns to education are higher in the private sector within the ethnic labor market than in other sectors and whether employment in the public sector is more advantageous within the ethnic market than outside it. In line with the research question raised in this paper our primary focus in model 3 is on returns to education in the various segments of the labor market. Since the excluded labor market segment is the public sector in the ethnic labor market, the coefficient for education in model 3 indicates the occupational status returns to every year of schooling for persons in this segment (i.e., when the dummy variables = 0). Arab men in the public sector of the ethnic labor market receive 3.75 status points for each year of schooling, and Arab women

TABLE 2

UNSTANDARDIZED OLS COEFFICIENTS FOR COVARIANCE MODELS PREDICTING OCCUPATIONAL STATUS

VARIABLES	ARAB MEN			ARAB WOMEN		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Education (years) .....	2.39** (.04)	1.36** (.03)	3.75** (.06)	3.26** (.11)	1.48** (.11)	3.82** (.13)
Age .....	.24** (.01)	.14** (.01)	.14** (.01)	.19** (.04)	.07 (.04)	.09 (.04)
Christian .....	-.27 (.30)	1.41** (.27)	1.52** (.27)	-5.57** (.73)	-2.94** (.65)	-2.37** (.64)
Public sector .....		-13.02** (.57)			-6.46** (1.54)	
Education $\times$ sector .....		2.37** (.05)			2.17** (.14)	
Ethnic labor market (EthLM) .....	-2.47** (.53)			2.93 (1.73)		
Education $\times$ EthLM .....	.55** (.05)			.30** (.14)		
Hebrew in EthLM .....	-.70* (.31)		.21 (.27)	-2.14* (.95)		-.39 (.83)
Hebrew out of EthLM .....	-.04 (.36)		.17 (.32)	-3.10** (.98)		-2.56** (.85)

Private sector in the EthLM (PrEthLM) .....	10.36**				8.97**
	(.80)				(2.18)
Private sector in the dominant labor market (PrDomLM) .....	10.53**				5.07*
	(.83)				(2.19)
Public sector in the dominant labor market (PuDomLM) .....	-4.58**				-.32
	(1.02)				(2.34)
Education × PrEthLM .....	-2.44**				-2.50**
	(.07)				(.20)
Education × PrDomLM .....	-2.35**				-2.14**
	(.07)				(.19)
Education × PuDomLM .....	-.24**				.31
	(.08)				(.18)
Intercept .....	5.48	15.35		5.13	17.8
Adjusted $R^2$ .....	.43	.54		.51	.61
$N$ .....		13,849			2,175

NOTE.—Nos. in parentheses are SEs. The comparison group for the labor market contrasts is the public sector in the ethnic labor market, and the comparison group for the interactions with Hebrew is “no knowledge of Hebrew.”

\*  $P < .05$ .

\*\*  $P < .01$ .

in the same market segment receive 3.82 points for every additional year of schooling. These status returns are higher than in any other segment of the market, as is evident from the negative sign of all interactions between education and market segments.

The figures in model 3 also indicate that status returns to education are lowest in the private sector of the ethnic labor market (the largest negative coefficients), followed by the private sector in the dominant labor market. An interaction effect, then, is apparent, whereby occupational status returns to education are higher in the public sector than in the private sector, and sector of the economy interacts with the type of labor market (ethnic vs. dominant) to produce divergent levels of returns to education. For men, status returns to education are highest in the public sector in the ethnic labor market.<sup>8</sup> For women the important distinction is between the public and private sectors, and there appears to be no significant difference in status returns to education derived from employment in the ethnic or the dominant labor markets (when controlling for public sector).

The findings reported thus far lend support to our theoretical expectations. Nevertheless, it is not clear to what extent higher returns to education in the public sector are due to its more egalitarian policies or are due, alternatively, to its particular occupational composition. According to the latter explanation, the observed findings may have been produced by the bimodal occupational distribution of Arabs in the public sector. The public sector is composed of health professionals, teachers, and administrators at the top, nonmanual unskilled workers at the bottom, and relatively few occupations in the middle. Consequently, the public sector can accommodate either highly educated workers or those with little schooling. Hence, according to this argument, education serves as a strong statistical discriminator between the two groups. By way of contrast, the occupational distribution of Arabs employed in the private sector is concentrated at the middle and bottom of the status scale. Thus, Arabs who are employed in the private sector, whether educated or not, face a limited opportunity structure, and their education can make little difference for their occupational status.<sup>9</sup>

In order to test this possibility we reestimated the covariance models predicting occupational status for a subsample of the population who had occupational status scores below 70. This procedure in effect eliminated the high status occupations and provided a test of differential status

<sup>8</sup> The coefficient estimates for returns to education derived in the various labor market segments are significantly different from one another except for returns in the private sector within and outside the ethnic labor market. In these two segments returns to education appear to be similar.

<sup>9</sup> We thank an anonymous reviewer for pointing out this possibility.



returns to education in the public and private sectors for the intermediate and lower status occupations. This analysis revealed a general decline in the magnitude of the effect of education, as might be expected, but displayed the same pattern of differential returns to education.<sup>10</sup> We can conclude, therefore, that neither the shape of the occupational distribution nor the type of occupations generated the higher status returns to education in the public sector.

*Earnings.*—In table 3 we present four covariance models that estimate the earning returns to education for men and women. The models are designed according to the same logic discussed with regard to occupational status. Model 1 tests that hypothesis of differential earning returns in and outside the ethnic labor market. It incorporates variables traditionally used in earnings equations—education, potential labor market experience, and hours of work—and whether one is Christian or non-Christian. In addition, the model includes a dichotomous variable for type of labor market (ethnic vs. dominant) and interaction terms for labor market type with use of Hebrew and with education. In model 2 we replace labor market type with economic sector of employment to test the hypothesis of differential earnings returns in the public and private sectors. In model 3 we include a set of dummy variables to capture the four combinations of labor market type by sector and their interactions with education. Model 4 adds occupational status to the earnings equation to evaluate the role of job allocation.

Results of the analyses for all models reveal that earnings tend to rise with education, hours of work, and experience (experience has a curvilinear effect). Christian men earn significantly more than non-Christian men, but we find no significant differences among women.<sup>11</sup>

<sup>10</sup> Among men, the coefficient estimates for the effect of education (representing returns in the public sector of the ethnic labor market) in the restricted sample was  $b = 2.00$ , and the coefficients for the interaction terms were  $b = -0.17$  for the public sector in the dominant labor market,  $b = -1.21$  for the private sector in the ethnic labor market, and  $b = -1.18$  for the private sector in the dominant labor market. Except for the private sector in and out of the ethnic labor market, the above-mentioned coefficients differ significantly from one another. For women the coefficient estimate for education was  $b = 2.87$ , and the coefficients for the interaction terms were  $b = -0.15$ , for the public sector in the dominant labor market,  $b = -1.89$  for the private sector in the ethnic labor market, and  $b = -1.49$  for the private sector in the dominant labor market. Only differences between the public sector and the private sector are statistically significant.

<sup>11</sup> We can only speculate at this point that the higher socioeconomic rewards that Christian men attain may be attributed to their concentration in large urban communities. They also tend to espouse less traditional orientations, enhancing their ability to successfully participate in modern economics (Al-Haj 1987). With regard to women, the negative effect of being Christian on occupational status may be due to the higher participation rates of Christian Arab women. Increased participation rates are associ-

The coefficients for Hebrew are also of substantive interest and clearly conform to our expectation. Among Arab men, knowledge of Hebrew increases earnings, but the effect is dissimilar in the ethnic and the dominant labor markets. Knowledge of Hebrew adds 27%–28% to the average earnings in the dominant labor market and only 12%–13% to earnings in the ethnic labor market. For women, knowledge of Hebrew has no statistically significant effect on earnings in the ethnic labor market but adds between 18% and 22% (depending on the model evaluated) to the earnings of women employed in the dominant labor market.

Since the focus of this paper is on socioeconomic returns to education, we turn now to evaluate the coefficients of education in the various models. According to the results in models 1 and 2, men employed in the ethnic labor market gain 1% more for every year of schooling than men employed outside the ethnic labor market. For men employed in the public sector earnings are 2% higher for every year of schooling than for men in the private sector. Women employed in the ethnic labor market earn 2% more for every year of schooling and accrue a similar benefit when working in the public rather than the private sector. Indeed, the data support the hypotheses that returns to education are higher both in the ethnic labor market and in the public sector.

Model 3 gives additional insight into the ways in which education determines earnings in the different segments of the labor market. Recalling that the coefficients for the variable "education" represent earnings returns for those in the public sector of the ethnic labor market (the excluded group), we found that every year of education adds 7% to earnings for men and 8% for women. Earnings returns are substantially lower in other segments of the labor market, as can be discerned from the negative coefficients for the interactions of education and labor market segments. For men, all coefficients are significantly different from one another. The lowest returns are in the private sector of the ethnic labor market, followed by the private sector of the dominant labor market, and returns to education are highest in the public sector of the ethnic labor market.<sup>12</sup> In the case of women, earnings in the public sector are

---

ated with lower selectivity and with an overflow into lower-status jobs (Lewin-Epstein and Semyonov 1992*b*). The insignificant effect of religion on earnings is consistent with a large body of research that repeatedly demonstrates the lack of race and ethnicity effects on women's earnings.

<sup>12</sup> One may argue that returns to education could be higher in the public sector even if sector of the labor market per se had no effect on level of returns. This would be the case if the functional form of returns to education were nonlinear, given the fact that the mean level of education is higher in the public sector than in the private sector. Our analysis, however, does not support such an explanation. First, the mean

the same regardless of the type of labor market (ethnic vs. dominant), and the same is true for the private sector. Differences in returns, then, are associated with public and private sector employment, with the former providing a "premium" of 3% for every year of schooling.

### The Role of Job Allocation

The findings reported in the previous section (models 1–3) revealed earnings advantages in the ethnic labor market and in the public sector. In order to examine the extent to which earnings gains are mediated through job allocation, we reestimated the covariance models for earnings with occupational status added to the equations (model 4 in table 3). The results of this analysis shed light on the social processes underlying the patterns observed earlier. When occupational status is included in the earnings models, we find that the net earnings returns to education decline substantially. For example, for men in the public sector of the ethnic labor market the total added earnings for every year of schooling are 7% (model 3), while the net addition of every year of schooling, after controlling for occupational status, is 3% (model 4). For women the figures are 8% and 4%, respectively.

Examining the interaction terms in model 4, we find that for men earnings returns in the public sector of the ethnic labor market remain higher than in all other segments and that the differences are statistically significant with one exception (the private sector in the dominant labor market). Among employed women all differences in earnings returns disappear once we control for occupational status. Hence, for women most of the effect of education on earnings is mediated through occupational sorting.

### Evaluating the Extent of Labor Market Sheltering—Comparing Arabs to Jews

Throughout the analysis we consistently find that the public sector provides Arab workers with higher status and earnings returns to education, and for men the benefits are significantly greater within the ethnic labor

---

level of education in the public sector is quite similar in the ethnic labor market and the dominant labor market. Yet returns to education are substantially higher in the ethnic labor market. Second, a direct examination of a nonlinear effect of education on occupational status and earnings (not presented in the paper) revealed no higher returns to higher levels of education. Hence, the explanation of the advantage of public sector employment within the Arab community should be derived from its unique position.

TABLE 3  
UNSTANDARDIZED OLS COEFFICIENTS FOR COVARIANCE MODELS PREDICTING IN EARNINGS

VARIABLES	ARAB MEN				ARAB WOMEN			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Education (years) .....	.05** (.002)	.04** (.002)	.07** (.003)	.03** (.003)	.07** (.005)	.06** (.006)	.08** (.007)	.04** (.008)
Experience .....	.02** (.002)	.02** (.002)	.02** (.002)	.02** (.002)	.03** (.005)	.03** (.005)	.03** (.005)	.03** (.005)
Experience <sup>2</sup> .....	-.0002** (.00003)	-.0003** (.00003)	-.0003** (.00003)	-.0003** (.00003)	-.0004** (.00001)	-.0004** (.00001)	-.0004** (.00001)	-.0004** (.00001)
Christian .....	.06** (.01)	.09** (.01)	.08** (.01)	.07** (.01)	-.02 (.03)	.02 (.03)	.02 (.03)	.04 (.03)
Hours of work (per week) .....	.005** (.0005)	.006** (.0005)	.006** (.0004)	.006** (.0005)	.005** (.001)	.01** (.001)	.007** (.001)	.009** (.001)
Public sector .....		-.11** (.03)				.10 (.07)		
Education × sector .....		.02** (.002)				.02** (.007)		
Ethnic labor market (EthLM) .....	.06** (.02)				.003 (.076)			
Education × EthLM .....	.01** (.002)				.02** (.006)			
Hebrew in EthLM .....	.12** (.01)		.13** (.01)	.13** (.01)	.02 (.04)		.06 (.04)	.07 (.04)

Hebrew out of EthLM .....	.28** (.02)	.28** (.02)	.27** (.02)	.18** (.04)	.20** (.04)	.22** (.04)
Private sector in the ethnic labor market (PrEthLM) .....		.16** (.04)	.05 (.04)		-.10 (.11)	-.19 (.11)
Private sector in the dominant labor market (PrDomLM) .....		.02 (.04)	-.09** (.04)		-.16 (.11)	-.21* (.11)
Public sector in the dominant labor market (PuDomLM) .....		-.02 (.05)	.02 (.05)		-.04 (.11)	-.04 (.11)
Education × PrEthLM .....		-.04** (.003)	-.01** (.004)		-.03** (.01)	-.007 (.01)
Education × PrDomLM .....		-.03** (.004)	-.006 (.004)		-.03** (.01)	-.006 (.01)
Education × PuDomLM .....		-.02** (.004)	-.015** (.004)		-.016 (.009)	-.01 (.009)
Occupational status .....			.01** (.0004)			.01** (.001)
Intercept .....	8.66	8.84	8.65	8.05	8.13	8.15
Adjusted R <sup>2</sup> .....	.15	.14	.18	.22	.24	.28
N .....		11,111				1,852

NOTE.—Nos. in parentheses are SEs. The comparison group for the labor market contrasts is the public sector in the ethnic labor market, and the comparison group for the interactions with Hebrew is “no knowledge of Hebrew.”

\*  $P < .05$ .

\*\*  $P < .01$ .

TABLE 4

COSTS (OR BENEFITS) IN OCCUPATIONAL STATUS AND EARNINGS THAT ARABS WOULD RECEIVE HAD THEIR RETURNS TO EDUCATION BEEN EQUAL TO THOSE OF JEWS

	ETHNIC LABOR MARKET		DOMINANT LABOR MARKET	
	Public	Private	Public	Private
Arab Men:				
Occupational SES .....	-3.78	5.65	-1.68	11.20
Earnings .....	-.21	.07	.15	.35
Earnings (controlling for SES) .....	-.16	-.07	.08	.11
Arab Women:				
Occupational SES .....	-4.51	8.27	3.31	5.60
Earnings .....	-.34	.37	.10	.15
Earnings (controlling for SES) .....	-.19	.23	.05	.13

NOTE.—See n.11 above for a description of the calculation procedure.

market. It is important, therefore, to examine whether employment in the public sector actually offers the ethnic minority some protection from economic discrimination or whether the observed differences simply reflect a general advantage enjoyed by all those who work in the public sector (Jews and Arabs alike). In order to explore this possibility, we compare the status and earnings returns of Arabs in each of the four labor market segments with those of relevant Jewish workers (e.g., Arab men in the public sector in the ethnic labor market and in the dominant labor market are compared with Jewish men employed in the public sector).

For the sake of parsimony we focus only on the status and earnings returns to education (although the models analyzed include all the variables discussed earlier in the text). We evaluate the magnitude of status and earnings costs (or benefits) for Arabs with average education when compared to Jews in the same industrial sector. Positive values represent socioeconomic costs, whereas negative values indicate socioeconomic benefits enjoyed by Arabs.<sup>13</sup>

The results of the analysis are presented in table 4 and provide additional insight into the role of the public sector and the ethnic labor market as shelters from economic discrimination. The findings reveal that the

<sup>13</sup> The figures in table 4 were calculated from the formula  $(b_J - b_A) x_A$ , where  $b_J$  and  $b_A$  represent the partial regression coefficients for education for Jews ( $J$ ) and Arabs ( $A$ ), respectively, and  $x_A$  is the mean education of Arabs. We performed the computation separately for each segment of the labor market, and the models controlled for all variables included in the covariance models.

disadvantage of Arabs (at least with regard to returns to education) is greater in the private sector than in the public sector. The disadvantage in the former sector is evident for both men and women, whether inside or outside the ethnic labor market. For example, had Arab men employed in the private sector in the dominant labor market been rewarded for their education to the same extent as Jews in the private sector, their occupational status would be 11.2 status points higher. Similarly, the occupational status of Arab women employed in the private sector of the ethnic labor market would increase by 8.27 points had their status been determined like that of Jewish women in the private sector.

The findings regarding the public sector are more complex and highlight the protective nature of the ethnic labor market. In general, Arabs experience less discrimination in the public sector. Furthermore, in the public sector of the ethnic labor market Arabs are advantaged even in comparison to Jews. The benefit is revealed in the negative sign preceding all figures in the column of the public sector in the ethnic labor market. For example, had Arab men in the public sector of the ethnic labor market been rewarded similarly to Jews, their expected occupational status would be 3.78 points lower than their actual status and their earnings would decrease by 16%. For women, the benefits associated with employment in the public sector of the ethnic economy amount to 4.5 status points and 19% of their earnings. We can conclude, therefore, that the public sector is less discriminatory toward the ethnic minority. Moreover, the public sector within the ethnic labor market not only shelters minority workers from discrimination but provides absolute socioeconomic advantages.

## DISCUSSION AND CONCLUSIONS

The structural position of Arabs in the economy of Israel strongly affects their socioeconomic rewards. The Arabs' ability to convert human capital resources (i.e., education) into occupational status and earnings depends upon the segment of the labor market in which they are employed. Our analysis reveals that returns to education are higher in the ethnic labor market than in the dominant labor market and in the public sector than in the private sector. Employment sector (public vs. private), however, more strongly affects returns to education than labor market type (ethnic vs. dominant), and in the public sector Arabs are less disadvantaged when compared to Jews. In fact, sector and labor market type combine to produce the highest status and earnings returns to education in the public sector of the ethnic labor market.

The concept of a sheltered labor market outlined at the outset of the paper appears to have some validity in the case of the Arab minority.

Employment in the ethnic labor market is advantageous for Arab workers. These advantages, however, can be attributed in large part to the industrial structure and in particular to the predominance of the public sector in the ethnic labor market. Put differently, there appears to be a sheltered labor market effect in the public sector but not in the private sector of the ethnic labor market. The findings reveal that returns to education are similar in both segments of the private sector.

Several factors may be germane to the lack of any advantage to private sector employment in the ethnic labor market. First, business establishments are small (all but a handful employ fewer than 10 employees), and they provide very little managerial, professional, or other high-status job opportunities. Second, without exception, private sector workshops and firms in the ethnic labor market are in peripheral industries that are highly competitive and low profit. In particular, competition with Jewish-owned firms minimizes the ability to offer earnings advantages to their employees. Evidently, outcomes in the private sector, whether in the ethnic labor market or the dominant market, are governed by market processes.

Our data did not permit us to directly examine the ethnic enclave thesis. Nonetheless, we found no indication that a network of exchange and support among firms has emerged in the private sector of the ethnic market to provide advantages that characterize the primary industrial sector of the economy. Indeed, many firms in the Arab market serve as subcontractors for large Jewish-owned firms and are thus dependent on the terms of exchange set by the latter firms. Under these conditions ethnic hegemony in private sector activity cannot be achieved and the ethnic labor market cannot serve as a sheltered market.

Our findings demonstrate that the public sector provides the Arab minority with higher socioeconomic rewards and higher returns to education. The public sector's bureaucratic characteristics and its openness to greater public scrutiny create a more advantageous environment. In the case of Arabs in Israel, as in other social settings (e.g., Rein 1985; Wilson 1978), government services provide higher status and higher paying jobs since they require educated and trained labor. Of central importance to our study, however, is the fact that status and earnings returns to education are generally higher in the public sector within the ethnic labor market than in any other segment of the economy. It should be noted that these conclusions more appropriately apply to Arab men than to Arab women, for whom public sector employment provides similar returns whether in or outside the ethnic labor market. Possibly, the small numbers of employed Arab women, and the limited range of jobs held by them in the public sector (mostly teaching and health care), render such a labor market effect untenable.



In considering the advantages associated with public sector employment in the ethnic labor market it is useful to distinguish between market processes and institutional processes. As we have seen, most of the advantages in the public sector of the ethnic labor market are mediated through job allocation. Arabs in this segment of the economy gain access to jobs of high status and authority (mostly in education, health, and welfare services) with hardly any competition from Jewish employees. The lack of competition is both a result of the ecological segregation of Arab communities and of cultural barriers. We noted specifically that language is likely to serve as a barrier, since daily interaction in the Arab communities takes place in Arabic, a language with which most Jews have little facility. Our findings shed some light on this issue from the flip side. Particularly with respect to earnings, we found that knowledge of Hebrew added only slightly to the earnings of men and provided virtually no additional earnings for women in the ethnic labor market. Yet, knowledge of Hebrew considerably increased earnings for those employed in the dominant labor market. Hence, Jews would have a difficult time competing for most jobs in the Arab ethnic market.

The circumstances of extreme residential segregation and substantial cultural barriers (e.g., language) that separate Arabs from Jews probably accentuate labor market sheltering in Israel. Nonetheless, the phenomenon is by no means unique. In many multiethnic societies the economic hardship of disadvantaged minorities is mitigated by particular market structures. In Britain, for example, Asian shopkeepers appear to benefit not only from cultural affinity with potential patrons but as a result of ethnic residential segregation as well (Aldrich et al. 1985). Indeed, most research in this area has underscored the important role of ethnic entrepreneurship (see Waldinger et al. [1990] for a review). We argue, however, that greater attention should be devoted to the public sector, where alternative mechanisms may develop as a result of special ethnic needs (Jones 1993), cultural boundaries, or political empowerment.

Expansion of opportunities in the public sector in Israel is institutionally (politically) determined, because the state controls much of local government and public-service funding (Al-Haj and Rosenfeld 1988). Hence, when highly educated Arabs are faced with labor market hardships, expansion of the public sector in the Arab community is an apparent strategy to co-opt the elite. The role of the state notwithstanding, the public sector serves as a major resource for the ethnic group. It leaves substantial autonomy in hiring and promotion decisions to members of the group and is an avenue for the mobilization of jobs for members of the minority. Thus, ethnic sentiments and solidarity can easily operate in the public sector of the Arab labor market to provide advantages similar to those in some ethnic enclaves in North America. It is possible,

although our data do not directly address this issue, that the private sector in the ethnic market displays no effect on status and earnings returns (similar to that of the public sector) because the distribution of power and resources in the ethnic market is skewed. That is, in face of a small and rather weak private sector, the public sector may in fact expropriate most resources. Under these circumstances, then, ethnic minority "control" over the public sector in the ethnic market may be a primary means of effecting opportunities. Such control can be construed within the conceptual framework of "ethnic hegemony" offered by Jiobu (1988).

The hegemonic situation implies, first, that the group achieves some measure of command over its economic destiny and, second, that resources are transferred to the minority through the interface with the dominant group. The hegemonic position in a particular area of economic activity in turn minimizes antiminority discrimination and helps uplift the entire subordinate group. The case of Arabs in Israel extends Jiobu's notion of control and accumulation through pure market processes to nonmarket mechanisms. The political activity by means of which the public sector in Arab communities expands, and becomes an important source of jobs and advantages, is one example of such mechanisms.

The findings discussed throughout the paper clearly demonstrate the differential effect of labor market structure on socioeconomic outcomes. Moreover, our findings underscore the role of the public sector in the ethnic labor market in generating rewarding job opportunities for members of the ethnic minority. Not only does the public sector constitute an important component of the ethnic labor market, but it also emerges as a resource for the subordinate community. It serves as a major avenue of social mobility for the Arab labor force. On the basis of these findings we argue that greater attention should be devoted to studying the ways in which the public sector affects individuals' opportunities for achievement and affects ethnically-linked socioeconomic inequality, not only in Israel but in other multiethnic societies as well.

## REFERENCES

- Abowd, J. M., and M. R. Killingsworth. 1985. "Employment, Wages, and Earnings of Hispanics in the Federal and Nonfederal Sectors: Methodological Issues and Their Empirical Consequences." Pp. 77-125 in *Hispanics in the U.S. Economy*, edited by G. J. Borjas and M. Tienda. Orlando, Fla: Academic Press.
- Aldrich, H., J. Cater, T. Jones, D. McEvoy, and P. Velleman. 1985. "Ethnic Residential Concentration and the Protected Market Hypothesis." *Social Forces* 63: 996-1009.

- Al-Haj, M. 1987. *Social Change and Family Processes: Arab Communities in Shefar-Am*. Boulder, Colo.: Westview.
- Al-Haj, M., and H. Rosenfeld. 1988. *Arab Local Government in Israel*. Tel Aviv: International Center for Peace in the Middle East.
- Asher, M., and J. Popkin. 1984. "The Effect of Gender and Race Differentials on Public-Private Wage Comparisons: A Study of Postal Workers." *Industrial and Labor Relations Review* 38:16–25.
- Becker, G. S. 1975. *Human Capital*, 2d ed. New York: National Bureau of Economic Research.
- Ben-Rafael, E. 1994. *Language, Identity, and Social Division: The Case of Israel*. Oxford: Clarendon.
- Blalock, H. M. 1967. *Toward a Theory of Minority Group Relations*. New York: Wiley.
- Blank, R. 1985. "An Analysis of Workers' Choice between Employment in the Public and Private Sectors." *Industrial and Labor Relations Review* 38:211–24.
- Blau, P., and O. D. Duncan. 1967. *American Occupational Structure*. New York: Wiley.
- Bobo, L., and F. D. Gilliam. 1990. "Race, Sociopolitical Participation, and Black Empowerment." *American Political Science Review* 84:377–93.
- Boyd, R. L. 1991. "A Contextual Analysis of Black Self-Employment in Large Metropolitan Areas, 1970–1980." *Social Forces* 70:409–29.
- Central Bureau of Statistics. 1983. *Population and Households: Provisional Results*. Jerusalem: Central Bureau of Statistics.
- . 1984. *Statistical Abstract of Israel*. Jerusalem: Central Bureau of Statistics.
- Dye, T. R., and J. Renick. 1981. "Political Power and City Jobs: Determinants of Minority Employment." *Social Science Quarterly* 62:475–86.
- Eisinger, P. 1986. "Local Civil Service Employment and Black Socioeconomic Mobility." *Social Science Quarterly* 67:169–75.
- Esping-Andersen, G. 1990. *Three Worlds of Welfare Capitalism*. Cambridge: Polity Press.
- Evans, M. D. R. 1987. "Language Skills, Language Usage, and Opportunity: Immigrants in the Australian Labour Market." *Sociology* 21:253–74.
- Frazier, E. F. 1957. *Black Bourgeoisie*. Glencoe, Ill.: Free Press.
- Haidar, A. 1990. *The Arab Population in the Israeli Economy*. Tel Aviv: International Center for Peace in the Middle East.
- Jiobu, R. M. 1988. "Ethnic Hegemony and the Japanese of California." *American Sociological Review* 53:353–67.
- Jones, F. L. 1993. "Unlucky Australians: Labour Market Outcomes among Aboriginal Australians." *Ethnic and Racial Studies* 16:420–58.
- Kretzmer, D. 1990. *Legal Status of the Arabs in Israel*. Boulder, Colo.: Westview.
- Lewin-Epstein, N. 1986. "Effects of Residential Segregation and Neighborhood Opportunity Structure on the Employment of Black and White Youth." *Sociological Quarterly* 27:559–70.
- Lewin-Epstein, N., and M. Semyonov. 1986. "Ethnic Group Mobility in the Israeli Labor Market." *American Sociological Review* 51:342–52.
- . 1992a. "Local Labor Markets, Ethnic Segregation, and Income Inequality." *Social Forces* 70:1101–19.
- . 1992b. "Modernization and Subordination: Arab Women in the Israeli Labour-Force." *European Sociological Review* 8:39–51.
- Liebersohn, S. 1980. *A Piece of the Pie*. Berkeley and Los Angeles: University of California Press.
- Light, I., and E. Bonacich. 1988. *Immigrant Entrepreneurs: Koreans in Los Angeles, 1965–1982*. Berkeley and Los Angeles: University of California Press.

- Lustick, I. S. 1980. *Arabs in the Jewish State: Israel's Control of a National Minority*. Austin: University of Texas Press.
- Maume, D. J., Jr. 1985. "Government Participation in the Local Economy, and Race- and Sex-Based Earnings Inequality." *Social Problems* 32:285-99.
- Meyer-Brodnitz, M., and D. Czamanski. 1986. "Industrialization of Arab Villages in Israel" (in Hebrew). *Rivon lekalkala* (Economic quarterly) 128:533-46.
- Mincer, J. 1974. *Schooling, Experience, and Earnings*. New York: National Bureau of Economic Research.
- Model, S. 1992. "The Ethnic Economy: Cubans and Chinese Reconsidered." *Sociological Quarterly* 33:63-82.
- Moss, P. I. 1988. "Employment Gains by Minorities and Women in Large City Government, 1976-1983." *Monthly Labor Review* 111:18-24.
- Nachmias, C. 1979. "Community and Individual Ethnicity: The Structural Context of Economic Performance." *American Journal of Sociology* 85:640-52.
- Portes, A., and R. L. Bach. 1985. *Latin Journey: Cuban and Mexican Immigrants in the United States*. Berkeley and Los Angeles: University of California Press.
- Portes, A., and L. Jensen. 1987. "What's an Ethnic Enclave? The Case for Conceptual Clarity." *American Sociological Review* 52:768-71.
- Rein, M. 1985. *Women in the Social Welfare Labor Market*. Berlin: WZB Working Papers.
- Rein, M., and L. Rainwater. 1987. "From Welfare Labor State to Welfare Society." In *Stagnation and Renewal in Social Policy: The Rise and Fall of Policy Regimes*, edited by G. Esping-Andersen, M. Rein, and L. Rainwater. Armonk, N.Y.: M. E. Sharpe.
- Rosenfeld, H. 1988. "Nazareth and Upper Nazareth in the Political Economy of Israel." Pp. 45-66 in *Arab-Jewish Relations in Israel*, edited by J. F. Hofman. Bristol, Ind.: Wyndham Hall Press.
- Sanders, J. M., and V. Nee. 1987. "Limits of Ethnic Solidarity in the Enclave Economy." *American Sociological Review* 52:745-67.
- Semyonov, M. 1988. "Bi-Ethnic Labor Markets, Mono-Ethnic Labor Markets, and Socioeconomic Inequality." *American Sociological Review* 53:256-66.
- Semyonov, M., and Y. Cohen. 1990. "Ethnic Discrimination and the Income of Majority Group Workers." *American Sociological Review* 55:107-14.
- Semyonov, M., and N. Lewin-Epstein. 1989. "Segregation and Competition in Occupational Labor Markets." *Social Forces* 68:379-96.
- . 1994. "Ethnic Labor Markets, Gender, and Socioeconomic Inequality." *Sociological Quarterly* 35:51-68.
- Shavit, Y. 1990. "Segregation, Tracking, and the Educational Attainment of Minorities: Arabs and Oriental Jews in Israel." *American Sociological Review* 55:115-26.
- . 1992. "Arabs in the Israeli Economy: A Study of the Enclave Hypothesis." *Israel Social Science Research* 7:45-66.
- Smootha, S. 1992. *Arabs and Jews in Israel: Change and Continuity in Mutual Intolerance*. Boulder, Colo.: Westview.
- Tienda, M., and D. T. Lii. 1987. "Minority Concentration and Earnings Inequality: Blacks, Hispanics, and Asians Compared." *American Journal of Sociology* 93:141-65.
- Tienda, M., and F. D. Wilson. 1992. "Migration and the Earnings of Hispanic Men." *American Sociological Review* 57:661-78.
- Tyree, A. 1981. "Occupational Socioeconomic Status, Ethnicity, and Sex in Israel: Considerations in Scale Construction" (in Hebrew). *Megamot* 27:7-21.
- Viteretti, J. 1979. *Bureaucracy and Social Justice*. Port Washington, N.Y.: Kennikat.
- Waldinger, R. 1987. "Changing Ladders and Musical Chairs: Ethnicity and Opportunity in Post-Industrial New York." *Politics and Society* 15:369-401.

- Waldinger, R., H. E. Aldrich, and R. Ward. 1990. *Ethnic Entrepreneurs: Immigrant Business in Industrial Societies*. Beverly Hills, Calif.: Sage.
- Wilson, K., and W. A. Martin. 1982. "Ethnic Enclaves: A Comparison of the Cuban and Black Economies in Miami." *American Journal of Sociology* 88:135–60.
- Wilson, W. J. 1978. *The Declining Significance of Race: Blacks and Changing American Institutions*. Chicago: University of Chicago Press.
- Zhou, M., and J. Logan. 1989. "Returns on Human Capital in Ethnic Enclaves: New York City's Chinatown." *American Sociological Review* 54:809–20.
- Zwerling, C., and H. Silver. 1992. "Race and Job Dismissals in a Federal Bureaucracy." *American Sociological Review* 57:651–60.

# Economic Dependency, Gender, and the Division of Labor at Home<sup>1</sup>

Julie Brines

*University of Washington*

Why does housework remain “women’s work”? Some scholars argue that economic dependency compels wives to exchange unpaid labor for a share of the husband’s income. Others claim that wives perform housework—and husbands avoid it—to enact symbolically their femininity or masculinity. This article examines both perspectives and finds that among wives the link between housework and the transfer of earnings in marriage complies with rules of economic exchange. However, the more a husband relies on his wife for economic support, the less housework he does. It appears that by doing less housework, economically dependent husbands also “do gender.”

## INTRODUCTION

The now decades-old “revolution” in women’s status remains one of the more compelling tales of recent change affecting U.S. society. Yet, there exists ample evidence that this revolution is “incomplete” (Bergmann 1986; Hewlitt 1986; Fuchs 1988) or, more recently, that it has “stalled” (Hochschild and Machung 1989). One province of work and family life in particular has lagged behind the pace of change manifest in other arenas, a puzzling backwater that informs the notion of a stalled revolution: Housework remains primarily “women’s work” despite substantial change in women’s employment patterns and in attitudes once thought to undergird the sexual division of labor.

This is not to deny *some* evidence of change in the division of household labor. Recent findings indicate that husbands now do more housework—

<sup>1</sup> The author wishes to thank James S. Coleman, Diane Lye, William L. Parish, Adrian Raftery, Steven Rytina, Aage Sørensen, Annemette Sørensen, participants in the Rational Choice Seminar at the University of Chicago, and the *AJS* reviewers for comments and suggestions. An earlier version of this paper was presented at the 1993 meeting of the Population Association of America in Cincinnati. Address correspondence to Julie Brines, Department of Sociology, University of Washington, DK-40, Seattle, Washington 98195.

and wives less—than their counterparts in 1965 (Robinson 1988). But the distribution of household responsibilities remains more unequal than many anticipated following the entry of married women into the labor force and the increase in egalitarian attitudes. Cross-sectional studies confirm the ongoing nature of the puzzle, particularly with respect to husbands' behavior. Wives' employment leads to only a very slight increase (1–2 hours per week) in husbands' housework time (Berardo, Shehan, and Leslie 1987; Berk 1985; Coverman 1983; Geerken and Gove 1983; Nickols and Metzen 1979; Pleck 1985; Robinson 1980). Even among those studies that have found a positive effect of egalitarian attitudes on husbands' participation in household tasks, the practical size of the effect is quite small (Blumstein and Schwartz 1991; Berk 1985; Ferree 1990; Hiller and Philiber 1986; Huber and Spitze 1983; Robinson 1977; Ross 1987; Stafford, Backman, and Dibona 1977). Others have failed to detect a significant relationship between the two (Araji 1977; Beckman and Houser 1979; Pleck 1985).

Clear solutions to the puzzle of housework have proven elusive. Among the conceptual alternatives offered, a class of models has emerged that frames the process by which housework remains "women's work" largely in terms of economic or quasi-economic rules of exchange (Brines 1993). Informed in part by an awareness of the still-sizable gap in men's and women's wage rates (Bianchi and Spain 1986; Fuchs 1988), these models view wives' continued responsibility for housework as a manifestation of how household duties are brokered between spouses according to a "logic of the pocketbook" (Hochschild and Machung 1989).

This article presents an analysis of one of these models, where the rules governing the division of housework are tied to relations of economic support and dependency (hereafter referred to as the dependency model).<sup>2</sup> Within the class of perspectives mentioned above, the dependency model is of interest for a number of reasons. First, the conceptual link between economic dependency and the supply of unpaid household labor lies at the heart of a feminist critique launched against the conventional view of stratification, in particular for its failure to address the relationship between gender and class (Acker 1988; Crompton and Mann 1986; Delphy 1984; Delphy and Leonard 1986; Walby 1986). This model,

<sup>2</sup> Along with the economic dependency model, two other perspectives make up the class of economic or quasi-economic exchange models; they draw respectively from human capital theory (see esp. Becker 1981) and from resource-bargaining theories of family power (Blood and Wolfe 1960; McDonald 1981). Although these models exhibit substantial conceptual overlap, each embodies a distinct set of assumptions and gives rise to different empirical implications. A systematic analysis of the entire class of models is beyond the scope of this paper; see Brines (1993) for the results of evaluating each one separately.

therefore, is central to an approach that has stimulated debate over many fundamental questions—ones that extend beyond the subject of housework per se. Second, scholarship on women that addresses a more general audience has adopted the language of economic dependency to explain persisting inequalities in the division of household labor (see, e.g., Bergmann 1986; Hewlitt 1986; Fuchs 1988). Third, although many studies have examined the effects of a husband's and wife's earnings on participation in housework and childcare—with mixed results (Blumstein and Schwartz 1991; Berk 1985; Berardo et al. 1987; Bird, Bird, and Scruggs 1984; Coverman 1985; Huber and Spitze 1983; Rexroat and Shehan 1987; Ross 1987; Spitze 1986)—the concept of economic dependency is rarely operationalized directly and its effects on housework have yet to be examined systematically.

There is, more broadly, another reason why the dependency model is of special concern. The dependency perspective adheres to the view that the relations behind the household division of labor are fundamentally economic (Walby 1986). The logic offered on behalf of this view is formally gender neutral, even though the distribution of initial conditions (earnings) and consequences (performance of housework) most decidedly are not. But the model's emphasis on the status of dependency itself suggests an alternative logic. Both economic dependency and the doing of housework carry tremendous symbolic weight as markers of gender, of being accountably feminine when one is dependent and does housework and accountably masculine when one earns most of the family income and leaves the housework to others (Fenstermaker, West, and Zimmerman 1991; West and Zimmerman 1987). From this perspective, the link between dependency and housework might derive not from relations of economic or quasi-economic exchange but from gender relations that regulate symbolic displays of masculine or feminine accountability. In contrast to the dependency model, this view relies not on a gender-neutral logic but on one where the rules exist, in part, to facilitate the reproduction of gender itself (Berk 1985).

In the interest, then, of gaining additional leverage on the salience of economic dependency, the following analysis enjoins the logic of "gender display" as a counterpoint. First, I outline the assumptions and implications of both the dependency model and the display perspective as they apply to housework behavior. Second, I develop alternative specifications of the effect of dependency on housework time that follow from the two contrasting views. Third, I test these specifications against recent data drawn from the Panel Study of Income Dynamics (Institute for Social Research, University of Michigan 1989), a longitudinal survey of U.S. households. Taken as a whole, the findings call for a reassessment



of the dependency model and the underlying paradigm of exchange upon which it is based.

### CONCEPTUALIZING DEPENDENCY

The dependency model of the division of labor at home is based on a deceptively simple idea: Household labor is provided in return for economic support (Delphy 1984; Walby 1986). According to this view, because most married women earn less than their husbands and depend on them to some extent for support, wives continue to perform most of the domestic tasks. The model does not anchor the essence of this relation in normative or cultural values associated with gender-appropriate behavior. Normative expectations reinforce the underlying mode of exchange by lending a sense of "naturalness" to the vast majority of outcomes, but the expectations themselves are not what lie at the heart of the process. Rather, the exchange is rooted in a materialist relationship, one governing the distribution of labor and resources (money) within marriage (Acker 1988). The foundation for the exchange thus resides in a relation between the positions of "main breadwinner" and "dependent"; it is not determined, in the final instance, by the gender of those who occupy these positions (Delphy and Leonard 1986).<sup>3</sup>

According to this model, the exchange relation between main breadwinners and dependents is contractual; money is exchanged for labor under a code stipulating the rights and obligations of parties to the contract—here, of marriage. The nature of this contract, however, departs substantially from that of paid labor in that housework is "neither exchanged in a calculated bargain for a wage which varies in proportion to the effort expended, nor with an employer who may be changed easily;

<sup>3</sup> A recent volume by Delphy and Leonard (1992) is not included among those considered here as representative of the dependency perspective. In this work, the authors depart from other explications of the model (including their own) by (1) denying *any* association between the level of maintenance dependents receive and the amount of work they do—rendering the concept of exchange inapplicable—and (2) insisting on the validity of defining married women as a dependent "class." These claims are based partly on the argument that, regardless of their actual circumstances, women occupy a specific location in the social relations of production that compels their unpaid labor and partly on the observation that female household heads are too few and too poor to merit conceptualization on the same terms as male household heads. Regrettably, Delphy and Leonard's revised analysis takes on the features of a closed theoretical system, making it impossible to extract falsifiable propositions about the relationship between gender, economic dependency, and the performance of unpaid labor.

rather the exchange is indirect, although nonetheless present" (Walby 1986, p. 34).

Because spouses cannot be easily changed, the marriage contract inhibits the operation of a free market for exchange. The marriage contract thus ensures that the conditions of trade between the main breadwinner and the dependent approach those of a bilateral monopoly (England and Farkas 1986). But the nature of what the dependent has to trade introduces an asymmetry. Housework—unpaid labor performed within the household—is by definition without exchange value in the classic sense; that is, it is nonportable or illiquid as a form of currency beyond the specific relationship, unlike what the main breadwinner brings to the trade. This difference in the fungibility of resources allows for the emergence of an unequal exchange relation between the two parties.

The advantage such asymmetry confers upon the main breadwinner paves the way for exploitation, although the extraction of what might be considered the surplus labor of dependents need not arise through direct coercion or exploitation. Such strategies are not unknown, of course, but they oppose the ideological underpinnings of the marriage contract, where the values of love, mutual trust, and commitment disallow both coercion and, as a rule, pursuit of the zero sum. In this respect, there exists a tension between norms typically governing the exchange of resources for labor (i.e., to drive the hardest bargain possible) and norms of social exchange aligned with the code of marriage (see Curtis 1986).

This provision for both economic and social forms of exchange lends a quasi-economic flavor to the model's view of the microdynamics governing housework and economic dependency. One can imagine several ways in which "the 'harsh' rules of the marketplace are 'softened' by bonds of love and friendship" (Curtis 1986, p. 181).<sup>4</sup> Proponents of the dependency model underscore the advantages that can accrue to main breadwinners through a strategy not of raw exploitation but of benevolent despotism, where they "may choose to forego many privileges—though they can have them again at any time" (Delphy and Leonard 1986, p. 64). In effect, the breadwinner can extend the "favor" of choosing not to exploit fully the dependency of others. The irony is that, in showing such restraint, the main breadwinner is better able to "persuade his dependents to at least acquiesce and ideally to work with wholehearted enthusiasm" (Delphy and Leonard 1986, p. 64).

<sup>4</sup> Curtis continues: "But where one might well ask, 'With friends like these what need do I have for enemies?'" (1986, p. 181).

But maneuvers aligned with the principles of social exchange are not the province of main breadwinners alone. According to the model, dependents may "resist and/or try to manipulate their situation in various ways and with varying degrees of success" (Delphy and Leonard 1986, p. 64; see also Hartmann 1981). Social exchange processes furnish opportunities for such manipulation and in fact tend to promote the interests of persons, like dependents, whose resources are comparatively limited (Blau 1964; Curtis 1986). In this connection, Curtis (1986, p. 180) speculates that "women often do housework because they expect some unspecified benefaction in the future, to be decided upon by the partner in the relationship they are establishing and perpetuating, and not because a contract has determined the amount of bed and board equivalent to so many hours of housework." The rub is that dependents' use of housework as a vehicle of social exchange can lead to Curtis's (1986, p. 179) paradox, where the main breadwinner receives a market value of housework that is greater than his or her own income, even though the housework is only a portion of what the dependent contributes to exercise a partial claim on that income.

Curtis's paradox raises the question of how one might best conceptualize the meaning of dependency for those who rely on a spouse for support. A husband or wife might be considered dependent, for example, only to the extent that he or she relies upon the breadwinner for subsistence. Under this conceptualization, anyone with the ability to support himself or herself (and children) after the loss of the breadwinner's contribution would be considered independent. However, when comparing current income against expected income were the spouse's support withdrawn, a dependent spouse is unlikely to base decisions (e.g., about whether to exchange housework for support or to exit the marriage) merely on whether the expected income stream can meet subsistence needs. Social and economic psychologists have found that when people compare alternatives under conditions of uncertainty, they focus on gains or losses relative to their current state (changes in wealth) and not on absolute levels of reward (states of wealth; Tversky and Kahneman 1986). People also experience the displeasure of loss more keenly than the satisfactions of an equally sized gain (Kahneman and Tversky 1979; Gray and Tallman 1987), suggesting that dependents are probably most sensitive to prospective declines in their current income standard. Others have proposed that the balance of power in households rests on the control and allocation of surplus, above and beyond resources used for mere subsistence (Blumberg 1991; Coleman 1991). Taken together, these considerations suggest that dependency is best defined in terms of one spouse's reliance upon the other for his or her current income standard.

## DEVELOPING TESTABLE SPECIFICATIONS

Note that the preceding discussion of the dependency model is absent of language indexing gender. This exercise illustrates the underlying gender neutrality of the logic behind the model's conceptualization of the exchange relation. In the literature, however, dependency is generally framed as if it were a status of wives or women exclusively and as if it applies to them as members of a group (see Acker 1988; Walby 1986). Rarely do expressions of the model separate dependency and its effects from the gender of most of those who occupy this status (for an exception, see Delphy and Leonard 1986).

This tendency to elide the categories of "dependent" and "wife" draws from the model's view of macrolevel structures that contextualize the personal relations of redistribution between spouses. According to this view, the status of dependency affects all married women, regardless of whether or not one is actually dependent upon a man, because the *assumption* of women's dependency is built into employment practices, sex-segregated occupational structures, state welfare policy, and the institutionalization of the "family wage" (see esp. Acker 1988). These socio-institutional arrangements reinforce wives' dependency on their husbands. Men as a group do not confront analogous structures and practices that serve to perpetuate dependency, and, in any case, husband-dependents are few in number. Thus, identifying dependency with wifehood is not considered particularly problematic from the point of view of the model.<sup>5</sup>

The difficulty with this formulation lies in its overdeterminism. By collapsing the status of "wife" into that of "dependent," it prohibits any attempt to evaluate the salience of dependency vis-à-vis that of gender. It defines away, for instance, the question of how well actual economic dependency within marriage accounts for the division of household labor. Nor does this point of view permit an assessment of the extent to which the structural context of wives' dependency modifies outcomes that would otherwise follow from a gender-neutral logic of exchange.

The analysis of the model presented here proceeds with these questions. It begins with a gender-neutral specification of the effect of economic dependency (or alternatively, providership) on participation in

<sup>5</sup> Among advocates of the dependency model, some disagreement exists over whether structures generating dependency locate women (Delphy 1984; Delphy and Leonard 1986; Acker 1988) or wives (Walby 1986) as a group or class. Because this article analyzes only married persons and cohabitators, the latter view is more directly addressed here. In any event, the debate over whether women or wives constitute a class does not bear substantively on the hypotheses I investigate.

housework, in other words, the specification that follows directly from the model's logic of exchange at the microdynamic level. In light of the claim that the division of household labor rests in the relation between the positions of main breadwinner and dependent, results consistent with a gender-neutral specification would constitute strong support for the model.

The argument regarding the importance of socioinstitutional arrangements that presume women's dependency, however, opens avenues for another specification that is consistent with the model. This line of reasoning suggests that wives, as women, confront occupational, legal, and political or policy structures that accentuate the status of dependency and its consequences for future life chances more powerfully for them than for men. Because men generally encounter more favorable wage and promotional prospects than do women, chances are high that a dependent husband could subsist on his earnings alone should the marriage dissolve; his odds of gaining economic independence are better than those facing most married women. Married men's greater structural opportunities for independence are thus likely to set limits on any exchange disadvantage that might arise as a consequence of dependency upon their wives. In comparison, limited structural opportunities leave dependent wives much more subject to imbalance in the current exchange relation.

Thus, the model's view of macrolevel arrangements suggests that actual dependency within marriage might have a greater effect on the housework behavior of wives than on that of husbands, even if the logic governing the exchange relation at the microdynamic level is gender neutral. A pattern of outcomes that conforms to this specification would, then, be reconcilable with this view.<sup>6</sup>

Figures 1–4 illustrate the various specifications of the relationship between economic dependency or providership and participation in housework that are plausible under the model. Figure 1 depicts a simple linear relation as a point of departure. Conceptual features of the model, however, suggest that the relationship is unlikely to be linear in its proportions. Rather, the consequences of asymmetry suggest a pattern of cumulative disadvantage associated with greater dependency and cumulative advantage accruing to greater providership. Greater degrees of dependency, for instance, are likely to register increasingly larger shares of "debt" and compel increasing rates of "payment." Figure 2 illustrates the form of this nonlinear relationship, where the magnitude of the effect of dependency or providership on housework increases with the degree of dependency or providership.

<sup>6</sup> However, such patterns could lend only qualified support to the model, because they are equally consistent with what one would expect if the rules of the exchange relation are themselves gendered.

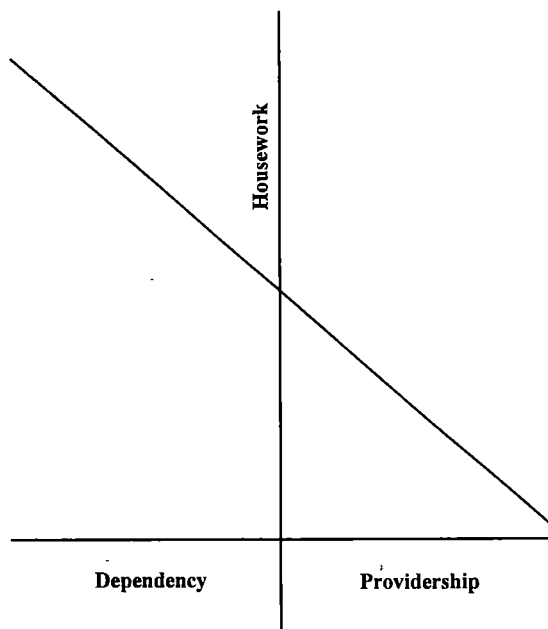


FIG. 1.—Linear model ( $Y = \alpha + \beta X$ ;  $\beta < 0$ )

The relationships portrayed in figures 1 and 2 represent gender-neutral specifications of the link between household labor performance and economic support. Empirical patterns that conform to either specification, and that do not reveal significant gender differences in the magnitude of the relationship, would lend considerable support to the model's view of exchange at the microdynamic level. But patterns of this type are not the only ones plausible under the dependency perspective. Figures 3 and 4 depict the case where the relationship takes the same functional form (that of fig. 2) for wives and husbands, but where the size of the relationship is greater for wives. Such a pattern would lend support to the idea that dependency or providership is more salient for married women's behavior as a consequence of institutional structures that presume women's dependency.

#### HOUSEWORK, DEPENDENCY, AND SYMBOLIC EXCHANGE: A COUNTERPOINT

Figures 1–4 show the most plausible theoretically motivated associations between the receipt or provision of economic support and housework

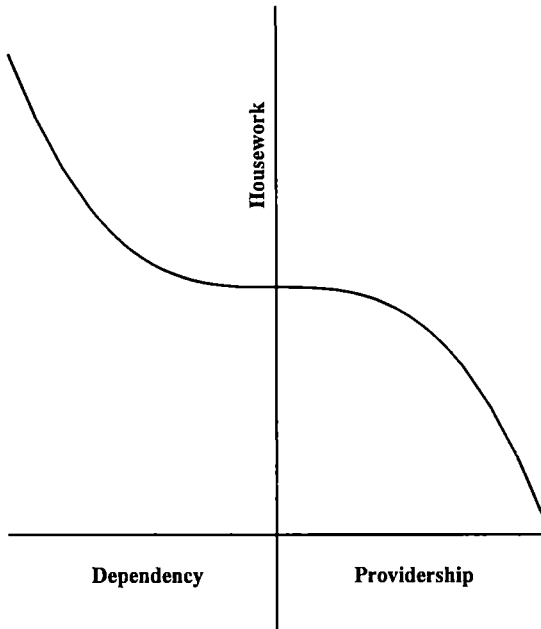


FIG. 2.—Cumulative disadvantage model ( $Y = \alpha + \beta X^3$ ;  $\beta < 0$ )

under the dependency model. These hypothetical associations build from gender-neutral logics of interpersonal exchange, emphasizing economic trading practices, but allowing for processes of social exchange that might overlay the fundamentally economic relation between main breadwinners and dependents. Other versions of the association preserve a gender-neutral functional form but allow for differences between wives and husbands in the salience of the relationship between dependency and housework.

Images of economic or social exchange do not, however, exhaust the possibilities for conceptualizing patterned interaction between husbands and wives. An entirely different image of exchange locates gender at the heart of such interaction, where ongoing behavioral displays of masculinity and femininity become routinized within the institution of marriage (Goffman 1977; West and Zimmerman 1987). According to this perspective, while marriage provides a setting for childbearing, the division of labor, and other material aspects of life, it also provides a stage for the enactment of claims, particularly those attached to “the deepest sense of what one is—one’s gender identity” (Goffman 1977, p. 315). Part of what individuals invest in when they establish an intimate union, then,

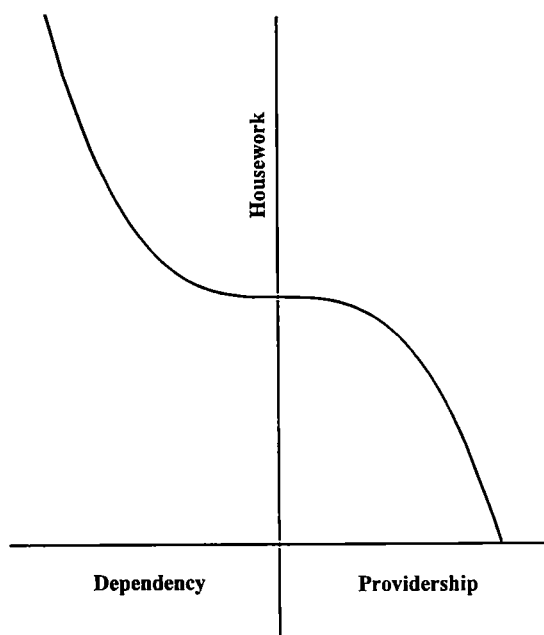


FIG. 3.—Cumulative disadvantage: wives ( $Y = \alpha_w + \beta_w X^3$ ;  $\beta_w < 0$ ,  $\beta_w < \beta_h$ ).

is a socially sanctioned arrangement offering recurrent opportunities to advance claims about the self as “naturally” male or female.<sup>7</sup>

The division of household labor can be viewed as part of the scaffolding that supports the interpersonal enactment of gender within marriage. Berk's (1985) exhaustive analysis of the allocation of time and tasks in household production, for example, concludes that the division of household labor serves the dual purpose of producing gender as well as consumable goods and services (see also Fenstermaker et al. 1991). This dual purpose pivots on the cultural association of household labor with “women's work.” The routine performance or nonperformance of housework facilitates gender display, because “for a woman to engage in it and a man not to engage in it is to draw on and exhibit the ‘essential nature’ of each” (West and Zimmerman 1987).

<sup>7</sup> In this respect, Goffman (1977, p. 321) argues that the “marital bond—whatever else it is—can be seen as having the consequence of more or less permanently attaching an audience directly to each performer, so that wherever the male or female goes, an appropriate other will be alongside to reciprocate the enactment of gender expressions.”



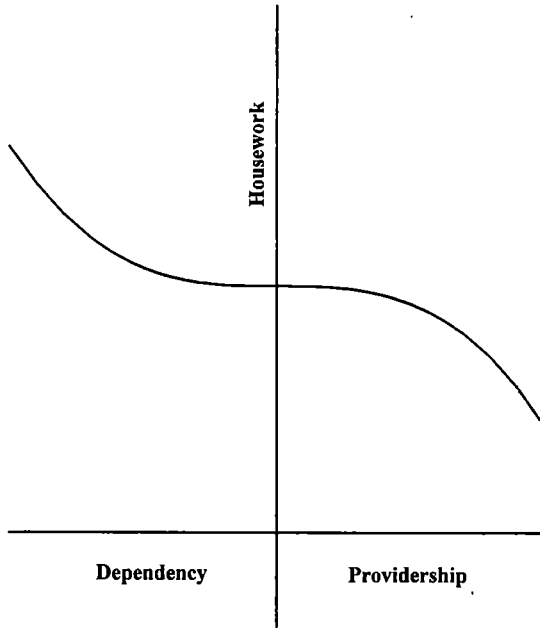


FIG. 4.—Cumulative disadvantage: husbands ( $Y = \alpha_h + \beta_h X^3$ ;  $\beta_h < 0$ ,  $\beta_h > \beta_w$ ).

This perspective has been put forth to account for the “unexplained residual” difference that persists between wives’ and husbands’ housework contributions, net of labor force participation levels, professed sex-role attitudes, and the like (e.g., Berk 1985; West and Zimmerman 1987; Thompson and Walker 1989). But the validity of this perspective has been difficult to ascertain directly, short of evidence provided by a few ethnographic studies (Hochschild and Machung 1989; Hood 1983; DeVault 1991). Moreover, as a residualist explanation of “net” gender differences it competes with other, equally plausible accounts, including those that emphasize the consequences of women’s structural disadvantage in achieving economic independence.

Coupling the issue of dependency with the “doing” of gender via housework provides a special avenue for gaining leverage on this problem and, in turn, on the implicit debate between adherents of the “display” perspective and those of the dependency model. It requires, however, that one examine the other side of gender display. The focus on housework as women’s work and not men’s leaves the equation incomplete. What, in terms of positive content, do people regard as “men’s work”?

The answer surfaces routinely in a variety of contexts: "men's work" remains associated with primary providership for the family (Blumstein and Schwartz 1991; Hood 1983; Liebow 1967). The association between "men's work" and providership not only reflects widespread personal beliefs about adult male competency, but is, following the flipside of the argument regarding women's dependency, embedded in socio-institutional structures. To the extent that these structures remain predicated on the ideal of durable heterosexual unions, institutions presume male providership just as much as they presume female dependency. Drawing upon the display perspective, then, the problem becomes one of how institutionalized normative expectations regarding female dependency *and* male providership are managed reflexively at the level of "private" domestic relations, no matter what the actual material circumstances confronting a couple might be.

One means of approaching this problem is to ask: What happens among couples who violate the norms prescribing the gender of main breadwinner and dependent? The display perspective suggests that such arrangements throw an uncustomary wrench into the dynamics of symbolic interaction between wife and husband. Neither partner, on these grounds, engages in behavior that exhibits or affirms their "essential natures" as men and women. So with respect to the internal dynamics of these partnerships, one normatively sanctioned arrangement providing for the everyday enactment of gender is unavailable. Furthermore, deviation from the dependency norm risks a couple's social accountability. Research on couples where the wife is considered occupationally senior lends support to this view, in that people in gender-atypical partnerships often encounter negative judgments from relatives, friends, and colleagues (Hornung and McCullough 1981; Atkinson and Boles 1984). The findings of one study in particular attest to the problems such couples face in managing others' perceptions of their accountability as "real" men and women:

Husbands were perceived as losers, e.g., lazy, irresponsible and unmasculine. One father said of his son, who was relocating for his wife's career: "If he were any kind of man, he wouldn't be following her like that." Wives are seen as "unladylike," domineering, and manipulative. One comment addressed to the husband of an office manager was, "Does she manage you too?" A wife was asked, "What kind of drugs do you give him anyhow?" A young woman said to an older female colleague, "I'd rather die than end up like you." [Atkinson and Boles 1984, p. 864]

Because breadwinner wives and dependent husbands appear to contend with both a narrower arena for symbolic exchange and the negative reactions of others, the logic of display suggests that they are likely to compensate by adopting gender-traditional behaviors elsewhere in the

marriage.<sup>8</sup> Under this view, one would *not* expect couples supported economically by wives to divide “women’s work” in a manner consistent with the terms of the dependency model. Indeed, these couples may resort to traditional housework arrangements as a means of reclaiming gender accountability in the eyes of self, partner, and others. Hochschild and Machung’s (1989, p. 221) study of 50 dual-earner couples is highly suggestive in this regard: one-fifth of the husbands who earned more than their wives shared the housework; one-third of those who earned about the same shared; but among those who earned less than their wives, none shared.<sup>9</sup> Concluding on the basis of intensive interviews that wives and husbands often approach housework as a means of “balancing” interpersonal power, they argue that “the more severely a man’s identity is financially threatened—by his wife’s higher salary, for example—the less he can afford to threaten it further by doing ‘women’s work’ at home” (p. 221).

The basis of the relationship between economic support and housework suggested here departs fundamentally from the gender-neutral underpinnings of the dependency model. At the same time, the display perspective offers a means of accounting for the latter model’s plausibility on *prima facie* grounds. When a couple’s relations of support and dependency align with normative expectations regarding the gender of those who exchange “women’s work” for the fruits of “men’s work”—in other words, when the wife is dependent and the husband is the main breadwinner—the exchange of housework for support poses no problem from the point of view of gender enactment. Here, normative expectations and actual circumstances correspond in ways that allow husbands and wives to do gender as they exchange resources for labor according to quasi-economic rules. For these gender-typical unions, the relationship between dependency and housework would then take the form presented in figure 5. Note that this form is identical to the dependency model’s “cumulative disadvantage” specification shown in figure 2, except that here both normative expectations and distributive realities regarding the gender of providers and dependents are recognized explicitly.

The extension of this pattern suggested by the display perspective appears in figure 6. When expected and actual relations of support and dependency *diverge* along gender lines, the rules governing housework

<sup>8</sup> Indeed, wives in the above-mentioned study said that they engaged in traditionally feminine displays “as much as possible” vis-à-vis their husbands, taking special pains to appear attractive, to arrange romantic interludes, and to “cater” to their husbands in order “to make up for their participation in a traditionally male role” (Atkinson and Boles 1984, p. 865).

<sup>9</sup> In Hochschild and Machung’s study, “sharing” husbands were those who contributed between 45% and 55% of the total time a couple spent on household tasks.

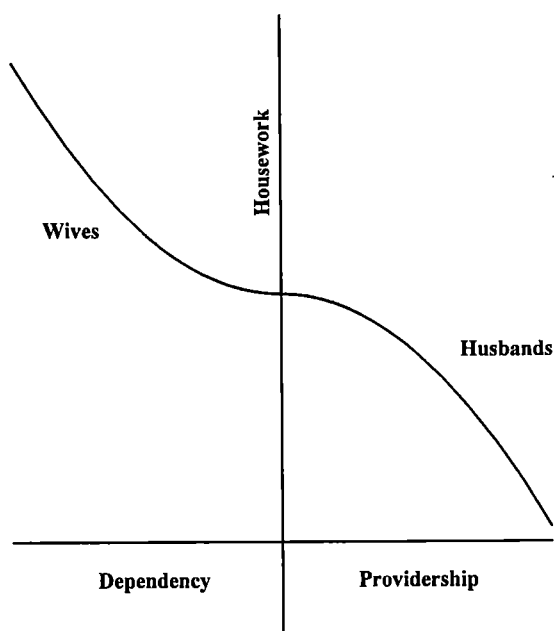


FIG. 5.—Distributional image

change. The reassignment of housework as women's work among these couples becomes a means by which wives and husbands can interpersonally compensate for restricted symbolic opportunities and social deviance. The greater the degree of deviance, the greater the threat to both partners' gender accountability and, in turn, the greater the likely level of investment in compensatory traditional behavior. Figure 6 thus represents the display perspective's counterpoint to the dependency model specifications shown in figures 1-4. The analyses presented below are designed to adjudicate among the various possibilities.

## DATA AND MEASURES

### The Sample

The data used in this paper are drawn from family and individual records contained in wave 20 of the Panel Study of Income Dynamics (PSID; Institute for Social Research, University of Michigan 1989) and pertain to activities in the year 1985. The PSID collects yearly data on the economic and demographic activities of members of nearly 5,000 U.S. families originally sampled in 1968. The sample of couples used here is confined to (1) black and white husbands and wives 18 years old or older in

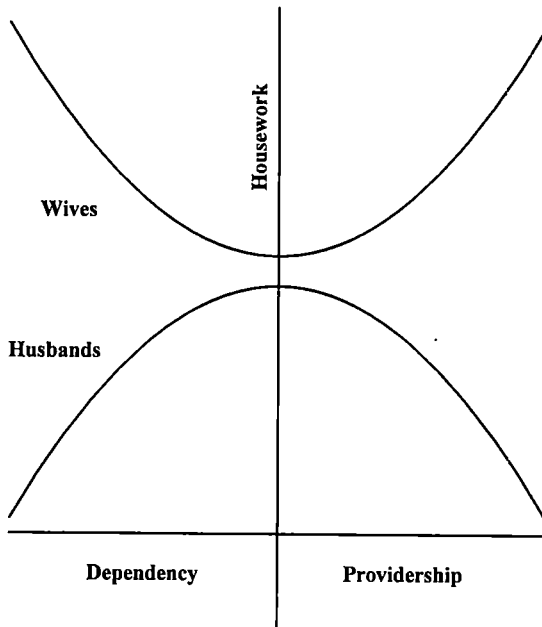


FIG. 6.—Display model ( $Y = \alpha + \beta X^2$ ;  $\beta_h < 0$ ,  $\beta_w > 0$ )

unions that had commenced by 1983 and remained intact through 1986,<sup>10</sup> and (2) members of unions where neither partner was jobless at the time of the 1985 interview due to retirement, physical disability, schooling, or confinement to an institution. Only unions that remained intact between 1983 and 1986 are sampled so as to provide a reasonable window on the durability of economic support and dependency relations. This fairly long time span is crucial for assessing outcomes among those in gender-atypical partnerships, given the popular assumption that most of these arrangements are temporary (due, e.g., to a husband's unanticipated unemployment or strike spell) and hence are unlikely to affect long-standing patterns of housework behavior. I exclude couples with a retired, disabled, institutionalized, or student partner, because it is unclear how the model of economic dependency would apply to couples with a spouse who is unable to work for pay. Exclusion of unions with a disabled

<sup>10</sup> Married unions include cohabiting partnerships that began at least one year before the time of the 1983 interview and that remained intact, regardless of any change in legal status, through 1986. Although the analysis targets activity in the year 1985, the sample includes only couples who remained together through 1986, because PSID employment, earnings, and hours data for any year  $t$  are provided on records for interview year  $t + 1$ .

partner is further justified by the possibility that disabled spouses are unable to do much work, be it paid or unpaid. Model estimation is performed separately for wives and husbands.

### The Dependent Measure

The natural log of an individual's weekly housework time in 1985 serves as the dependent variable, where the raw PSID values (in hours) are transformed to pull in outliers.<sup>11</sup> The raw values come from responses to the following question asked of husbands and wives in separate interviews: "About how much time do you spend on housework in an average week (excluding child care)—I mean: time spent cooking, cleaning, and doing other work around the house?" Although this type of measure does not elicit time estimates that are as precise as those from the diary-accounting method, the PSID measure is considered appropriate for analyses that compare summary estimates of routine activity at the household level (Hill 1985; Robinson 1985). Moreover, comparisons between time-diary instruments and stylized measures such as the PSID's indicate that the two types of measures are roughly equal in terms of reliability (Hill 1985). Given that this article concerns itself with how relations of support and dependency are tied to partners' general performance of housework and that, among large-scale surveys, only the PSID provides reliable economic data from which dependency and providership can be traced over a series of years, the PSID measure seems best suited to the task at hand.

### Measures of Dependency or Providership

Dependency or providership is measured both over a period of three years (1983–85) and contemporaneously (1985). Both measures are adapted from Sørensen and McLanahan's (1987) original measure of a wife's economic dependency. Here, the formula

$$\text{income transfer} = (\text{OEARN} - \text{SEARN})/(\text{OEARN} + \text{SEARN})$$

applies to both wives and husbands, where OEARN and SEARN equal one's own labor income and one's spouse's labor income, respectively. For the measure of long-term economic transfer, labor income is computed over the years 1983, 1984, and 1985 (in 1985 dollars); for the measure of contemporaneous transfer, only data on 1985 earnings is used. I assume, as the measure's originators do, that husbands and wives pool their earned income and share it equally. Values of these measures range

<sup>11</sup> Raw values of "0," i.e., no time spent on housework, are recoded to ".01" before transformation.

from "1," meaning that one provides complete earned-income support to his or her spouse, to "-1," meaning that one completely depends upon his or her spouse for such support; a value of "0" means that both partners contribute the same amount to the couple's earnings pool. Other values can be interpreted in the following way: for negative values, multiplying the absolute value by 100 gives the percentage of one's income share received from the spouse; for positive values, multiplying the value by 100 gives the percentage one contributes to the spouse's share.

Each measure is used in separate rounds to test the alternative dependency and display specifications of the effect of dependency or providership on housework. Distinguishing between long-term and contemporaneous patterns of income transfer is important because women's and men's responses to the same level of dependency are probably conditional on whether their circumstances have persisted for some time. For couples with gender-atypical support arrangements, the question of precedence is perhaps especially germane. Among those who have participated in such arrangements for a number of years (whether by design or circumstance), contemporaneous housework behavior is probably based on the expectation that these support patterns will endure. Analyzing the effects of contemporaneous dependency might reveal different patterns if couples entering atypical arrangements in any given year tend to do so involuntarily or regard their situation as temporary.

### Control Measures

Several individual sociodemographic and household variables are entered into the models as controls and, taken together, represent a baseline that corresponds to standard models of the household division of labor.<sup>12</sup> Table 1 presents the coding of these variables and their predicted effects for husbands and wives.

The hypothesized effects of these variables are inspired by the results of previous research. Individual attributes such as age, race, and educational attainment are viewed as important predictors of housework behavior, because they capture variation in patterns over the family life cycle, in subcultural practices, and in general lifestyle propensities or values (Berk 1985; Coverman 1985; Huber and Spitze 1983; Rexroat and Shehan 1987; Ross 1987). Young married women at the onset of childbearing age, for instance, appear to do less housework than their

<sup>12</sup> Preliminary analyses tested for the effects of marital status (whether married or cohabiting), the age of the youngest child, and the numbers of teen-aged and young-adult children present in the household. Because none of these effects were significant in the baseline models, I dropped them from the analysis.

TABLE 1

MEANS, STANDARD DEVIATIONS, AND PREDICTED EFFECTS OF INDEPENDENT VARIABLES\*

VARIABLE	HUSBANDS		WIVES		PREDICTED EFFECT	
	Mean	SD	Mean	SD	Husbands	Wives
Housework time (hours per week) .....	6.62	6.82	24.99	15.84		
Dependency measures:†						
Long-term economic transfer						
(1983-85) .....	.51	.42	-.52	.43		
Contemporaneous economic transfer (1985) .....	.50	.47	-.50	.47		
Sociodemographic control variables:						
Age .....	39.00	10.68	36.62	10.31	-	+
African-American .....	.23	.42	.23	.42	+	-
Education (0 = less than eighth grade; 8 = postgraduate work) .....	5.02	1.74	4.90	1.54	+	-
Employment:						
Employed part-time .....	.15	.36	.33	.47	+	+
Joblessness, short-term .....	.02	.13	.02	.13	0/-	0
Joblessness, long-term .....	.01	.11	.01	.09	?	+
Household Measures:‡						
N of children:						
0-2 years old .....	.28	.52			+	+
3-5 years old .....	.30	.53			0	+
6-13 years old .....	.63	.87			0	+
Others' weekly housework time .....	4.75	9.72			0	-
ln(family income) .....	10.44	.78			+	-
Restaurant meal expenditures .....	.29	.48			0	-
N .....	2,312		2,301			

\* Data are unweighted.

† Predicted effects are those motivated by the dependency perspective.

‡ Means and SDs for these variables are identical for husbands and wives and thus are not repeated for wives.



counterparts in the middle to late childbearing years; wives' housework time remains high until the "empty nest" period, whereupon it declines through the retirement stage (Hafstrom and Schram 1983; Rexroat and Shehan 1987; but see Berk 1985). However, preliminary analysis of the data revealed that the curvilinear age effect becomes linear for wives when either economic transfer measure is introduced, whereas the age effect remains linear across all models for husbands. To preserve parsimony, all analyses discussed below estimate only the linear effect of age.

Because of PSID data limitations, comparisons by race are confined here to African-Americans and whites. Previous findings, though scattered, suggest that African-American husbands and wives share housework to a greater extent than do white couples (Ross 1987; Scanzoni 1971). This finding is consistent with research indicating that African-American men and women are less likely than whites to base expectations on the ideal of distinct and complementary work roles within the family (Jones 1985).

Education embodies levels of human capital investment, lifestyle preferences, and attitudes; its effects on housework behavior are thus complex and difficult to interpret unambiguously. Nonetheless, several studies find that wives with more education do less housework, whereas highly educated husbands do more, suggesting that education primarily captures an attitudinal effect (Berardo et al. 1987; Coverman 1985; Farkas 1976; Goldscheider and Waite 1991).

Household compositional factors, as well as those related to income and consumption practices, affect both the supply and demand for household labor. Children, particularly those under school age, tend to increase the household labor time of wives (Berk 1985; Nickols and Metzen 1979; Shelton 1992). Married fathers of young children appear to do more housework than other husbands (Berardo et al. 1987; Coverman and Sheley 1986; Rexroat and Shehan 1987), but there is little evidence that the presence of older children affects the housework responsibilities of fathers. At the same time, the performance of tasks by family members other than the wife or husband (representing primarily older children) appears to substitute for a share of the wife's housework (Waite and Goldscheider 1992).

The effect of family income, while often the object of theoretical speculation, is relatively understudied empirically. Greater financial resources facilitate the purchase of domestic services that, presumably, relieve a share of the task burden that otherwise would be performed by the wife. Income also captures class differences, where lower- or working-class men and women appear to be less egalitarian in their values (Mason and Bumpass 1975; Mason, Czajka, and Arber 1976) and, again presumably, in their household-labor patterns. These arguments suggest that higher

family incomes reduce the housework time of wives; the class hypothesis further implies a positive effect of family income on husbands' time (i.e., as family income goes up, so does the housework time of husbands).

Income is, however, at best a proxy for the purchase rate of goods and services that may replace the time of family members. To better gauge how such purchases affect the division of household labor, the model includes a measure of the annual amount spent on restaurant meals relative to the sum spent on food prepared at home; as in the case of maid or domestic services, such expenditures should be related to a reduction in wives' housework time.

The set of dummy terms for employment is designed to address two concerns. The first relates to how labor force attachment affects a person's time availability, as well as the elasticity of household labor arrangements. Part-time workers are likely to spend more time on household tasks than do the fully employed; previous research shows that this pattern holds for both wives and husbands, although the effect is much greater for wives (Shelton 1992). The nonemployment terms differentiate between those who were temporarily laid off or unemployed at the time of interview but worked for at least 12 weeks during the year and those who were not employed (but in the labor force) for a longer period of time. I make this distinction by strength of labor-force attachment in part because the recently jobless are likely to anticipate reemployment and, as a consequence, might be less inclined to invest greater amounts of their time in housework. A second reason for making this distinction is related to the display perspective. Recent studies of the effect of male unemployment on families show that unemployed husbands do not substantially increase their participation in housework. In fact, one study suggests that some of these husbands resist housework because they perceive it as further threatening their male identity (Morris 1990; Wheelock 1990; see also Turner 1992). Hochschild and Machung (1989) report a similar pattern among the "semi-unemployed" husbands in their study. Thus, quite apart from predictions aligned with the notion of time availability, joblessness may have a negative effect on husbands' housework time—particularly among the long-term unemployed, whose prolonged experience might intensify any distress over lost claims to male accountability.<sup>13</sup> The final term for employment status is that of "housewife"; because only a handful of husbands in the PSID sample are so classified, this term is included only in the analysis for wives.

<sup>13</sup> The image of unemployed husbands' resistance to household work is consistent with reports of husbands' negative affective response and hostile marital interactions arising from economic hardship, including those linked to unstable employment over the past year (Liker and Elder 1983; Conger et al. 1990).

## REGRESSION RESULTS

Table 2 presents unstandardized OLS coefficients and SEs from model estimation for wives. Because the dependent variable is logged, small coefficients can be interpreted as the percent change in housework hours associated with a one-unit increase in the independent variable (Wonnacott and Wonnacott 1979). Model 1 reports the results for models including controls only. Models 2–4 test alternative specifications of the effect of long-term economic transfer; models 5–7 comprise the same set of tests for the effect of contemporaneous transfer. Both the linear and the cubic polynomial specifications are consistent with the premises of the dependency perspective, the latter attempting to model the consequences of cumulative disadvantage or advantage. The second-order model, on the other hand, represents the functional form of the effect of economic transfer under the gender display perspective.<sup>14</sup>

The effects of sociodemographic and household-level variables shown in table 2 are generally consistent with those reported elsewhere. Moreover, the estimates for measures through other family members' housework time remain strikingly stable across models. Among these measures, only family income fails to exhibit a significant effect across all models. The unanticipated positive association between wives' housework time and that of other family members suggests that the time of others might not substitute for that of the wife once rates of household expenditure on other substitutes, such as dining out, are taken into account.

The results for the employment terms in model 1 are consistent with the time-availability perspective. Housewives, followed by the long-term jobless and wives employed part-time, spend more time on housework than do fully employed wives. But differences by employment status are not reducible to matters of time availability alone. Wives who have been jobless for a brief spell also do more housework than those who work full-time, but here the difference is explained completely by the greater economic dependency of the former. More generally, married women who work part-time or are not employed do more housework than fully employed wives partly because the former are more dependent on their husbands' earnings.

Models 2–4 report the results of estimation using the three-year measure of economic dependency or providership; models 5–7 show the effects of the contemporaneous measure. The pattern of effects and the proportions of variance explained across specifications are essentially the same regardless of whether earnings transfer is measured currently or

<sup>14</sup> For an explanation of the technique used to fit the polynomial models, see the appendix.

TABLE 2

## OLS MODELS OF WIVES' 1985 HOUSEWORK TIME USING ALTERNATIVE SPECIFICATIONS OF DEPENDENCY OR SUPPORT

CONTROL VARIABLES	LONG-TERM (THREE-YEAR) TRANSFER			CONTEMPORANEOUS TRANSFER		
	Linear (2)	Cumulative Disadvantage (3)	Gender Display (4)	Linear (5)	Cumulative Disadvantage (6)	Gender Display (7)
Age.....	.006*** (.001)	.006*** (.004)	.006*** (.001)	.007*** (.001)	.007*** (.001)	.007*** (.001)
African-American.....	-.109*** (.031)	-.100** (.031)	-.101*** (.030)	-.103*** (.030)	-.101** (.031)	-.102*** (.030)
Education.....	-.031*** (.009)	-.025** (.009)	-.025** (.009)	-.024** (.009)	-.023** (.009)	-.024** (.009)
N of children:						
0-2 years old .....	.170*** (.028)	.168*** (.027)	.168*** (.027)	.166*** (.027)	.166*** (.028)	.166*** (.028)
3-5 years old .....	.130*** (.025)	.120*** (.025)	.118*** (.025)	.126*** (.025)	.126*** (.025)	.125*** (.025)
6-13 years old .....	.010*** (.016)	.093*** (.016)	.093*** (.016)	.097*** (.016)	.097*** (.016)	.097*** (.016)
ln(family income) .....	-.011 (.017)	-.024 (.017)	-.025 (.017)	-.037 (.018)	-.036* (.018)	-.038* (.018)
Restaurant meal expenditures.....	-.087*** (.026)	-.088*** (.026)	-.088*** (.026)	-.092*** (.026)	-.094*** (.026)	-.092*** (.026)
Other family members' housework time .....	.003* (.001)	.003* (.001)	.003* (.001)	.003* (.001)	.003* (.001)	.003* (.001)

Employment:

Employed part-time .....	.240*** (.031)	.181*** (.032)	.180*** (.032)	.181*** (.032)	.161*** (.033)	.154*** (.034)	.159*** (.034)
Joblessness, short-term .....	.198* (.098)	.114 (.099)	.113 (.099)	.111 (.099)	.099 (.099)	.085 (.100)	.095 (.1010)
Joblessness, long-term .....	.459** (.145)	.330* (.146)	.330* (.147)	.325* (.146)	.245* (.148)	.249 (.152)	.234 (.152)
Housewife .....	.657*** (.033)	.510*** (.042)	.510*** (.045)	.504*** (.044)	.463*** (.046)	.464*** (.054)	.454*** (.053)
Economic transfer:							
X .....	-.214*** (.038)	-.214*** (.040)	-.214*** (.040)	-.219*** (.040)	-.232*** (.038)	-.231*** (.043)	-.238*** (.042)
X <sup>2</sup> .....			.021 (.060)	.025 (.060)		.010 (.055)	.017 (.054)
X <sup>3</sup> .....			.069 (.106)			.089 (.093)	
Constant .....	2.646*** (.180)	2.736*** (.179)	2.706*** (.184)	2.730*** (.180)	2.864*** (.182)	2.824*** (.188)	2.853*** (.185)
R <sup>2</sup> .....	.253	.263	.264	.264	.265	.266	.265

NOTE.—N = 2,301; SEs are in parentheses. Models based on ln of hours of housework per week.

\*P < .10.

\*\*P < .05.

\*\*\*P < .01.

\*\*\*P < .001.

over the long term, although the effects are somewhat greater for the contemporaneous measure.

For all three specifications (linear, cumulative disadvantage, and gender display) the first-order term suffices to fit the data; this remains true for the effects of long-term and contemporaneous dependency. On grounds of parsimony, then, the simple linear specification (models 2 and 5) provides the superior fit. The contemporaneous effect translates into approximately a 2.3% increase in housework time for every 10% of the wife's share of combined earnings received by the husband and a reduction of the same magnitude for every 10% of the husband's share contributed by the wife. Note, however, that the positive sign of the second-order estimates is consistent with the predictions of the display perspective. The findings under this specification also show that the greater housework time of unemployed wives is largely explained by their contemporaneous levels of dependency upon the spouse.

The results for husbands depart substantially from the patterns observed for wives. Table 3 reports Tobit estimates for models of husbands' housework; these estimates are generated using a maximum-likelihood procedure that corrects for limited dependent variables.<sup>15</sup> Although the Tobit estimates tend to be larger in magnitude than OLS estimates (results not shown), the two procedures produce the same pattern of findings.

The effects of sociodemographic and household-level control variables yield few surprises. The positive association of other family members' housework time was unexpected, but the practical impact is small: a husband's housework time increases by approximately 1.4% for every hour of housework done by family members other than the wife. Table 3 also indicates that the chain of associations between the number of very young children, levels of economic transfer, and husbands' housework time suppresses the positive association between very young children and the latter. The presence of each infant or toddler increases a husband's housework time but is also associated with greater levels of providership, which in turn reduces husband's time and partly undoes the positive effect of very young children.

More provocative findings surface among the set of terms for husbands' employment. Only those husbands who have recently lost their jobs do more housework than the fully employed, and the increment in the former's time is relatively large. Compared to the long-term unemployed

<sup>15</sup> Among cases retained after listwise deletion of missing cases, 15% of husbands—but no wives—reported "0" hours of housework in 1985. The sizable proportion of husbands who load on this lower-boundary value ( $\log = -4.605$ ) can lead to biased and inconsistent OLS estimates (see Tobin 1958). Maximum-likelihood methods correct for this problem.

then—who have been free for months to make adjustments in their behavior—the recently jobless contribute more to the work of the home. Husbands who have been unemployed for a longer period of time do no more housework than their fully employed counterparts, and there is some evidence that they may do even less; the negative estimate for the effect of long-term joblessness reaches significance ( $P < .10$ ) under model 5. These results are not only irreconcilable with the time-availability perspective but are suggestive of particular resistance among the long-term jobless against doing “women’s work.”

Alternative specifications of the effect of long-term dependency or providership on husbands’ housework time appear in models 2–4; contemporaneous effects appear in models 5–7. Taken together, these models attest to the salience of economic dependency among men. Note, for example, that measures of economic transfer contribute proportionately more to the  $R^2$  values for husbands than for wives. The increment for husbands, moreover, is substantial; depending on the specification, including information on the degree of economic transfer leads to an approximate  $R^2$  improvement of 20%–27%.

The signs of the economic transfer estimates in table 3 all align with predictions under the linear, cumulative disadvantage, and gender display specifications. But the display specification clearly provides the best fit, regardless of whether one examines earnings transferred in the current year or over the past three years.

Certain shifts in the pattern of coefficients across models 5–7 pinpoint the conditions under which husbands tend to withdraw from housework as a consequence of their dependency. Consider the negative effect that emerges for the long-term jobless under model 5. When the measure of current economic transfer takes the linear form, the long-term jobless appear to do less housework than the fully employed, net of any economic dependence upon their wives. When the second-order term for economic transfer is added to the equation (models 6 and 7), the negative quadratic effect absorbs the effect for long-term joblessness; thus, among these men it is not joblessness per se but dependency that accounts for their lower levels of housework. Interestingly, dependency does not account for the greater housework time of the short-term unemployed. Note further that for all models that include a second-order term (models 3, 4, 6, and 7), the positive effect of family income drops below significance. It appears, then, that lower-income husbands do less housework because they are more likely to depend on their wives for economic support and respond by avoiding housework to reclaim their constitutive masculinity.

Taken together, the above findings illuminate the circumstances under which dependent husbands resist doing housework: those in lower-

TABLE 3  
TOBIT MODELS OF HUSBANDS' 1985 HOUSEWORK TIME USING ALTERNATIVE SPECIFICATIONS OF DEPENDENCY OR SUPPORT

CONTROL VARIABLES (1)	LONG-TERM (THREE-YEAR) TRANSFER			CONTEMPORANEOUS TRANSFER		
	Linear (2)	Cumulative Disadvantage (3)	Gender Display (4)	Linear (5)	Cumulative Disadvantage (6)	Gender Display (7)
Age.....	-.038*** (.006)	-.028*** (.006)	-.028*** (.006)	-.032*** (.006)	-.028*** (.006)	-.028*** (.006)
African-American.....	.093 (.141)	-.048 (.141)	-.054 (.141)	-.007 (.141)	-.046 (.141)	-.046 (.141)
Education.....	.310*** (.035)	.308*** (.035)	.310*** (.035)	.307*** (.035)	.313*** (.035)	.313*** (.035)
<i>N</i> of children:						
0-2 years old.....	.454*** (.121)	.480*** (.122)	.482*** (.122)	.453*** (.123)	.493*** (.123)	.493*** (.123)
3-5 years old.....	-.008 (.113)	.134 (.113)	.129 (.113)	.077 (.113)	.098 (.113)	.098 (.112)
6-13 years old.....	.036 (.071)	.109 (.071)	.109 (.071)	.080 (.070)	.088 (.070)	.088 (.070)
ln(family income).....	.184* (.080)	.149+ (.079)	.119 (.080)	.175* (.079)	.094 (.083)	.094 (.083)
Restaurant meal expenditures.....	.071 (.118)	.047 (.117)	.050 (.117)	.067 (.117)	.059 (.117)	.059 (.117)



Other family members' housework time .....	.015* (.006)	.015* (.006)	.014* (.006)	.014* (.006)	.014* (.006)
Employment:					
Employed part-time .....	.259 (.159)	.116 (.159)	.150 (.159)	.147 (.159)	.179 (.160)
Joblessness, short-term .....	1.212** (.431)	.936* (.428)	1.005* (.428)	.995* (.428)	.992* (.428)
Joblessness, long-term .....	.085 (.532)	-.758 (.539)	-.549 (.548)	-.518 (.547)	-.138 (.616)
Economic Transfer:					
X .....		-.976*** (.140)	-.975*** (.140)	-.975*** (.140)	-.728*** (.130)
X <sup>2</sup> .....			-.658* (.261)	-.664* (.261)	-.768*** (.227)
X <sup>3</sup> .....			-.374 (.471)		.005 (.410)
Constant .....	-1.691* (.827)	-1.191 (.821)	-.933 (.825)	-1.055 (.840)	-.695 (.862)
-2 log-likelihood .....	10357.4	10309.6	10302.4	10303.0	10309.0
R <sup>2</sup> (from OLS models) .....	.080	.100	.103	.102	.100

NOTE.—N = 2,312; SEs are in parentheses. Models based on ln of hours of housework per week.

+ P < .10.

\* P < .05.

\*\* P < .01.

\*\*\* P < .001.

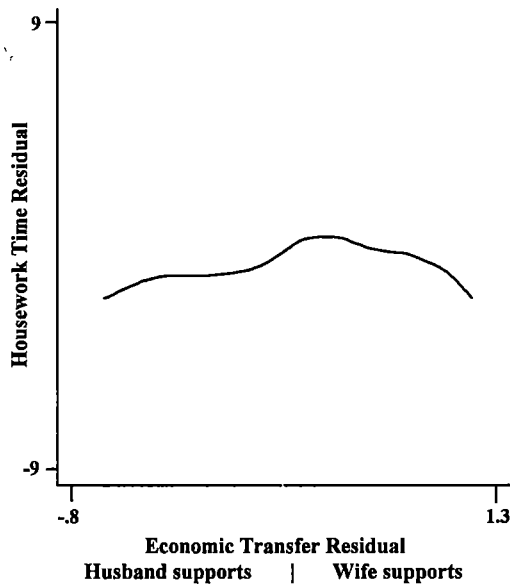


FIG. 7.—Husbands' median housework time by contemporaneous economic transfer (residuals).

income households and those who are dependent in a given year as a result of prolonged joblessness. These are precisely the associations foreshadowed in qualitative studies of the effects of male unemployment (or underemployment) on household behavior (Hochschild and Machung 1989; Morris 1990; Wheelock 1990).

Figures 7 and 8 give further shape to the empirical relationship between economic transfers in marriage and the division of labor at home. Using the contemporaneous measure of dependency or providership, the figures depict the median spline of the residuals for housework time by the residuals for current economic transfer for husbands and wives, respectively. For each figure, the two sets of residuals come from separate regressions on the variables included under model 1 (see tables 2 and 3). These data-generated profiles thus show the net association between contemporaneous dependency or providership and housework time. Movement up the vertical axis represents an increase in housework time, whereas movement from left to right ranges from the case of complete dependency to that of complete support of the spouse.

Figure 7 reflects the concave association between contemporaneous transfer and husbands' housework time modeled in table 3. Recall that



FIG. 8.—Wives' median housework time by contemporaneous economic transfer (residuals).

this association persists net of the effects of the variables included under model 1 and thus cannot be reduced to patterns found only among the long-term jobless or the less affluent.<sup>16</sup>

Figure 8 provides greater leverage on the contemporaneous form of the association for wives. The negative relationship is strikingly linear over approximately three-quarters of the range of net values for the economic transfer measure—well into territory where the wife provides substantial support to the husband. The upward inflection evident thereafter is linked to the positive high-order estimates reported in table 2. This does not, however, reflect a statistically significant bend in the relationship between providership and wives' housework time. In short, figure 8 reveals a modicum of evidence suggestive of display behavior on the part of some breadwinner wives at the same time that it shows why the linear specification of the association provides the best, most parsimonious fit.

<sup>16</sup> Additional tests for interactions between husband's economic dependency and family income did not yield evidence of nonadditive effects. Moreover, the polynomial estimates remained quite robust across models (not shown) that tested for interactions among dependency, family income, and employment.

## SUMMARY AND DISCUSSION

Why does housework remain "women's work"? While development of a fundamentally economic account has moved in one direction (e.g., Acker 1988) and that of a fundamentally cultural account in another (e.g., Fenstermaker et al. 1991), quantitative research continues to preoccupy itself with variables and procedures that offer little real leverage on either perspective. Both perspectives remain compelling, in part because they provide intuitively appealing interpretations of the persistent housework gap between married men and women. But both also pose operational hurdles that have made it difficult to adjudicate between them. This paper shows how one can gain insight by juxtaposing different specifications of the form of the relationship between economic dependency and housework behavior.

Both the dependency and display perspectives assume that the link between economic dependency and housework is governed by symmetrical processes for women and men. On the one hand, these processes involve the exchange of unpaid labor for support, on the other, the display of gendered compensatory behavior—but either way the same process is said to apply equally to husband and wife.

However, married men and women appear to respond quite differently to issues of dependency or providership. Wives respond in ways consistent with the dependency model. The same is not true for husbands. Regardless of whether economic patterns of support between wife and husband are measured contemporaneously or over a period of years, dependent husbands do less housework the more they depend on their wives for income. This dynamic is particularly evident among (though not limited to) married men in low-income households. Men currently dependent on their wives as a consequence of prolonged joblessness are also prone to disavow household work. Quite possibly, any tendency among working-class or poor men to embrace an ethic of exaggerated masculinity (Morris 1990; Rubin 1976) might predispose these husbands to resist housework as evidence mounts of "failure" at the male provider role.

What explains why findings emerge on behalf of a display interpretation for men but not for women? If the logic of gender display rests on the notion that interactional pressures compel both men and women to act accountably male or female, why would breadwinner wives be exempt from these pressures? The anthropological record on sex-role asymmetry offers a possible answer. Conceptions of what sets women apart from men tend across cultures to regard manhood as a developmental accomplishment, something that, through rite or initiation, must be *achieved* (Herdt 1982; Paglia 1990; Rosaldo 1975). Womanhood, on the

other hand, is more often seen as a natural condition, in part because women's bodies and reproductive capacities are seen as placing them closer than men to nature (Beauvoir 1953; Ortner 1975; Ortner and Whitehead 1981). Another asymmetry, perhaps more specific to Western societies, concerns women's primary responsibility for early child care and socialization—and men's relative remoteness from it (Chodorow 1978). The consequence for a young boy's developing gender identification is that he tends to define masculinity "in negative terms, as that which is not feminine or involved with women," rather than in terms that might arise through a close personal identification with the father (Chodorow 1975, p. 50). For a girl, the process of developing an identity as a girl is continuous with her early primary identification with the mother; in other words, gender-identity formation does not require that she transfer her primary identification from the female to the male parent.

Both of the above asymmetries set the stage for what has been referred to elsewhere as the sexual sociology of adult life, where conceptions of masculinity and femininity continue to organize experience and behavior (Chodorow 1975). But the flexibility of these conceptions differs for women and men. The cultural framing of manhood as an accomplishment makes claims to masculinity more precarious than those of "natural" womanhood, more demanding of ongoing behavioral "proof," and less accommodating of departures from the norm (Gerson and Peiss 1985; Lehne 1989).<sup>17</sup> Status violations are thus more likely to pose a threat to claimed identity and compel a compensatory response among dependent men than among breadwinner women. That response becomes all the more explicable if, as Chodorow (1975, 1978; also Williams 1989) argues, masculinity is defined fundamentally by a rejection of that which is "female."<sup>18</sup>

These asymmetries in gender-identity formation do not point to a single solution for households, but they do suggest that, for breadwinner wives and dependent husbands, social and interactional pressures conspire to limit the possibilities. One solution might take the form of an adaptive compromise, where each partner gets to apply a preferred logic to his or

<sup>17</sup> In a related vein, Paglia's (1990, p. 125) analysis of Western art and literature suggests that in the West "masculinity has been the most fragile and problematic of psychic states," where, compared to men, "women have ironically enjoyed a greater symbolic, if not practical freedom."

<sup>18</sup> The greater "tolerability" of female normative transgression is reflected in cultural accounts of the wife as breadwinner, which is considered permissible, perhaps even laudable, as long as she is seen as performing a duty on behalf of the family, with attendant claims to the personal sacrifice of not being able to remain at home. No such accounting mechanism exists for dependent husbands, at least insofar as it preserves an unshakable claim to customary definitions of a masculine self.

her own behavior: she gets to do less housework as she provides, while he gets to do gender as she provides. But this seems an unstable equilibrium: work that would otherwise enhance household well-being is left undone; meanwhile, dependent husbands realize greater leisure along with compensatory display opportunities, while their wives seem destined to trade one form of labor for another. Where norms of equity compete with the terms of such a compromise, the additional strains placed on the relationship may call forth another solution: that of divorce (see Hochschild and Machung 1989).

Exploring the possibility of multiple equilibria is beyond the scope of this article. But investigation of the various possibilities promises to shed new light on the consequences of shifts in the balance of economic power between women and men. Such shifts are becoming more commonplace as a result of structural changes in the economy, where men in traditional industries increasingly confront long periods of unemployment (Morris 1990; Wheelock 1990). The extent to which higher rates of long-term male joblessness might precipitate different, less traditional patterns of behavior or exacerbate tensions around male performance of "women's work" poses an immediate problem for research. And a renewed focus on working-class husbands and wives—who are at once more likely to achieve economic parity and more traditional in sex-role attitudes—promises to reveal even more about how economic and cultural processes situate gender in everyday life.

## APPENDIX

### Estimating Polynomial Models

Figures 1–4 and 6 depict polynomials of the  $k$ th degree ( $k = 1, 2, 3$ ), where for any  $k$  the lower-order terms are set to zero. For the purposes of estimation, however, setting the lower-order terms to zero might impose undue constraints on the model. Because theory does not strongly motivate these restrictions, the lower-order terms are included in the equations for the display (second-degree) and cumulative disadvantage (third-degree) models of the relationship between dependency and housework. No constraints are imposed on any of the parameters.

Unfortunately, estimation of full-order polynomial models typically runs into problems of multicollinearity. Often, these problems are not resolvable through simple centering of the predictors, especially for models of third degree or higher.

I use an alternative strategy to circumvent collinearity problems. The goal is to ensure that the predictors for the polynomial terms are uncorre-

lated with each other. One technique involves creating new predictors for the polynomial terms— $X^*$ ,  $X^{2*}$ ,  $X^{3*}$ —that are orthogonal functions of the simple polynomials— $X$ ,  $X^2$ , and  $X^3$  (centered about their means). The procedure regresses  $X^2$  on  $X$  and sets  $X^{2*}$  equal to the residuals. It then regresses  $X^3$  on  $X$  and  $X^{2*}$ , and sets  $X^{3*}$  equal to the residuals from the second regression.

The estimates for the starred terms have a different interpretation from those of the original, simple terms. However, the multiple  $R^2$  values and regression  $F$ -tests obtained by fitting the simple and starred terms are exactly the same (see Kleinbaum, Kupper, and Muller 1988; and Seber 1977).

## REFERENCES

- Acker, Joan. 1988. "Class, Gender, and the Relations of Distribution." *Signs* 13: 473–97.
- Araji, Sharon K. 1977. "Husbands' and Wives' Attitude-Behavior Congruence on Family Roles." *Journal of Marriage and the Family* 39:309–20.
- Atkinson, Maxine, and Jacqueline Boles. 1984. "WASP (Wives as Senior Partners)." *Journal of Marriage and the Family* 46:861–70.
- Beauvoir, Simone de. 1953. *The Second Sex*. New York: Knopf.
- Becker, Gary. 1981. *A Treatise on the Family*. Cambridge, Mass.: Harvard University Press.
- Beckman, Linda, and Betsy Bosak Houser. 1979. "The More You Have, the More You Do: The Relationship between Wife's Employment, Sex-Role Attitudes, and Household Behavior." *Psychology of Women Quarterly* 4:160–74.
- Berardo, Donna, Constance Shehan, and Gerald Leslie. 1987. "A Residue of Tradition: Jobs, Careers, and Spouse's Time in Housework." *Journal of Marriage and the Family* 49:381–90.
- Bergmann, Barbara. 1986. *The Economic Emergence of Women*. New York: Basic.
- Berk, Sarah Fenstermaker. 1985. *The Gender Factory: The Apportionment of Work in American Households*. New York: Plenum.
- Bianchi, Suzanne, and Daphne Spain. 1986. *American Women in Transition*. New York: Russell Sage.
- Bird, Gloria, Gerald Bird, and Marguerite Scruggs. 1984. "Determinants of Family Task Sharing: A Study of Husbands and Wives." *Journal of Marriage and the Family* 46:342–55.
- Blau, Peter. 1964. *Exchange and Power in Social Life*. New Brunswick, N.J.: Transaction Books.
- Blood, Robert, and Donald Wolfe. 1960. *Husbands and Wives: The Dynamics of Married Living*. Glencoe, Ill.: Free Press.
- Blumberg, Rae Lesser. 1991. "The 'Triple Overlap' of Gender Stratification, Economy, and the Family." Introduction to *Gender, Family, and Economy: The Triple Overlap*, edited by Rae Lesser Blumberg. Newbury Park, Calif.: Sage.
- Blumstein, Phillip, and Pepper Schwartz. 1991. "Money and Ideology: Their Impact on Power and the Division of Household Labor." Pp. 261–88 in *Gender, Family, and Economy: The Triple Overlap*, edited by Rae Lesser Blumberg. Newbury Park, Calif.: Sage.
- Brines, Julie. 1993. "The Exchange Value of Housework." *Rationality and Society* 5:302–40.

- Chodorow, Nancy. 1975. "Family Structure and Feminine Personality." Pp. 43–66 in *Woman, Culture, and Society*, edited by Michelle Z. Rosaldo and Louise Lamphere. Stanford, Calif.: Stanford University Press.
- . 1978. *The Reproduction of Mothering: Psychoanalysis and the Sociology of Gender*. Berkeley: University of California Press.
- Coleman, Marion Tolbert. 1991. "The Division of Household Labor: Suggestions for Future Empirical Consideration and Theoretical Development." Pp. 245–60 in *Gender, Family, and Economy: The Triple Overlap*, edited by Rae Lesser Blumberg. Newbury Park, Calif.: Sage.
- Conger, Rand, Glen Elder, Frederick Lorenz, Katherine Conger, Ronald Simons, Les Whitbeck, Shirley Huck, and Janet Melby. 1990. "Linking Economic Hardship to Marital Quality and Instability." *Journal of Marriage and the Family* 52:643–56.
- Coverman, Shelley. 1983. "Gender, Domestic Labor Time, and Wage Inequality." *American Sociological Review* 48:623–37.
- . 1985. "Explaining Husband's Participation in Domestic Labor." *Sociological Quarterly* 26:81–97.
- Coverman, Shelley, and Joseph P. Sheley. 1986. "Change in Men's Housework and Child-Care Time, 1965–1975." *Journal of Marriage and the Family* 48:413–22.
- Crompton, Rosemary, and Michael Mann, eds. 1986. *Gender and Stratification*. Cambridge: Polity Press.
- Curtis, Richard. 1986. "Household and Family in Theory on Inequality." *American Sociological Review* 51:168–83.
- Delphy, Christine. 1984. *Close to Home: A Materialist Analysis of Women's Oppression*. Amherst: University of Massachusetts Press.
- Delphy, Christine, and Diana Leonard. 1986. "Class Analysis, Gender Analysis, and the Family." Pp. 57–73 in *Gender and Stratification*, edited by R. Crompton and M. Mann. Cambridge: Polity Press.
- . 1992. *Familiar Exploitation: A New Analysis of Marriage in Contemporary Western Societies*. Cambridge: Polity Press.
- DeVault, Marjorie. 1991. *Feeding the Family: The Social Organization of Caring as Gendered Work*. Chicago: University of Chicago Press.
- England, Paula, and George Farkas. 1986. *Households, Employment, and Gender: A Social, Economic, and Demographic View*. New York: Aldine De Gruyter.
- Farkas, George. 1976. "Education, Wage Rates, and the Division of Labor between Husband and Wife." *Journal of Marriage and the Family* 38:473–83.
- Fenstermaker, Sarah, Candace West, and Don Zimmerman. 1991. "Gender and Inequality: New Conceptual Terrain." Pp. 289–307 in *Gender, Family, and Economy: The Triple Overlap*, edited by Rae Lesser Blumberg. Newbury Park, Calif.: Sage.
- Ferree, Myra Marx. 1991. "The Gender Division of Labor in Two-Earner Marriages: Dimensions of Variability and Change." *Journal of Family Issues* 12:158–80.
- Fuchs, Victor. 1988. *Women's Quest for Economic Equality*. Cambridge, Mass.: Harvard University Press.
- Geerken, Michael, and Walter Gove. 1983. *At Home and at Work: The Family's Allocation of Labor*. Beverly Hills, Calif.: Sage.
- Gerson, Judith, and Kathy Peiss. 1985. "Boundaries, Negotiation, Consciousness: Reconceptualizing Gender Relations." *Social Problems* 32:317–31.
- Goffman, Erving. 1977. "The Arrangement between the Sexes." *Theory and Society* 4:301–31.
- Goldscheider, Frances, and Linda Waite. 1991. *New Families, No Families? The Transformation of the American Home*. Berkeley and Los Angeles: University of California Press.
- Gray, Louis N., and Irving Tallman. 1987. "Theories of Choice: Contingent Reward and Punishment Applications." *Social Psychology Quarterly* 50:16–23.



- Hafstrom, Jeanne, and Vicki Schram. 1983. "Housework Time of Wives: Pressures, Facilitators, Constraints." *Home Economics Research Journal* 11:245-56.
- Hartmann, Heidi. 1981. "The Family as the Locus of Gender, Class, and Political Struggle: The Example of Housework." *Signs* 6:367-94.
- Herd, Gilbert. 1982. *Rituals of Manhood: Male Initiation in Papua, New Guinea*. Berkeley and Los Angeles: University of California Press.
- Hewlitt, Sylvia. 1986. *A Lesser Life*. New York: Morrow.
- Hill, Martha. 1985. "Patterns of Time Use." Pp. 133-76 in *Time, Goods, and Well-Being*, edited by F. T. Juster and F. P. Stafford. Ann Arbor: Institute for Social Research, University of Michigan.
- Hiller, Dana, and William Philiber. 1986. "The Division of Labor in Contemporary Marriage: Expectations, Perceptions, and Performance." *Social Problems* 33:191-201.
- Hochschild, Arlie, with Anne Machung. 1989. *The Second Shift: Working Parents and the Revolution at Home*. New York: Viking.
- Hood, Jane. 1983. *Becoming a Two-Job Family*. New York: Praeger.
- Hornung, Carlton A., and B. Claire McCullough. 1981. "Status Relationships in Dual-Employment Marriages: Consequences for Psychological Well-Being." *Journal of Marriage and the Family* 43:125-41.
- Huber, Joan, and Glenna Spitze. 1983. *Sex Stratification: Children, Housework, and Jobs*. New York: Academic Press.
- Institute for Social Research, University of Michigan. 1989. *The Panel Study of Income Dynamics, Wave XX*. Ann Arbor: Institute for Social Research, University of Michigan.
- Jones, Jacqueline. 1985. *Labor of Love, Labor of Sorrow*. New York: Basic.
- Kahneman, Daniel, and Amos Tversky. 1979. "Prospect Theory: An Analysis of Decision under Risk." *Econometrica* 47:263-91.
- Kleinbaum, David G., Lawrence L. Kupper, and Keith Muller. 1988. *Applied Regression Analysis and Other Multivariable Methods*. Boston: PWS-Kent.
- Lehne, Gregory K. 1989. "Homophobia among Men: Supporting and Defining the Male Role." Pp. 416-29 in *Men's Lives*, edited by Michael S. Kimmel and Michael A. Messner. New York: Macmillan.
- Liebow, Elliot. 1967. *Tally's Corner: A Study of Negro Streetcorner Men*. Boston: Little, Brown.
- Liker, Jeffrey, and Glen Elder. 1983. "Economic Hardship and Marital Relations in the 1930s." *American Sociological Review* 48:343-59.
- Mason, Karen, and Larry Bumpass. 1975. "U.S. Women's Sex-Role Ideology." *American Journal of Sociology* 80:1212-19.
- Mason, Karen, John Czajka, and Sara Arber. 1976. "Change in U.S. Women's Sex-Role Attitudes, 1964-1974." *American Sociological Review* 41:573-96.
- McDonald, Gerald. 1981. "Structural Exchange and Marital Interaction." *Journal of Marriage and the Family* 41:825-38.
- Morris, Lydia. 1990. *Workings of the Household: A U.S.-U.K. Comparison*. Cambridge: Polity Press.
- Nickols, Sharon, and Edward Metzen. 1979. "Housework Time of Husband and Wife." *Home Economics Research Journal* 7:85-97.
- Ortner, Sherry B. 1975. "Is Female to Male as Nature Is to Culture?" Pp. 67-87 in *Woman, Culture, and Society*, edited by Michelle Rosaldo and Louise Lamphere. Stanford, Calif.: Stanford University Press.
- Ortner, Sherry B., and Harriet Whitehead. 1981. "Accounting for Sexual Meanings." Introduction to *Sexual Meanings: The Cultural Construction of Gender and Sexuality*, edited by Sherry Ortner and Harriet Whitehead. Cambridge: Cambridge University Press.
- Paglia, Camille. 1990. *Sexual Personae: Art and Decadence from Nefertiti to Emily Dickinson*. New Haven, Conn.: Yale University Press.

- Pleck, Joseph. 1985. *Working Wives/Working Husbands*. Beverly Hills, Calif.: Sage.
- Rexroat, Cynthia, and Constance Shehan. 1987. "The Family Life Cycle and Spouses' Time in Housework." *Journal of Marriage and the Family* 49:737-50.
- Robinson, John. 1977. *How Americans Use Time: A Social-Psychological Analysis of Everyday Behavior*. New York: Praeger.
- . 1980. "Household Technology and Household Work." Pp. 53-68 in *Women and Household Labor*, edited by S. Fenstermaker Berk. Beverly Hills, Calif.: Sage.
- . 1985. "Changes in Time Use: An Historical Overview." Pp. 289-311 in *Time, Goods, and Well-Being*, edited by F. T. Juster and F. P. Stafford. Ann Arbor: Institute for Social Research, University of Michigan.
- . 1988. "Who's Doing the Housework?" *American Demographics* 10:24-28.
- Rosaldo, Michelle Zimbalist. 1975. "Woman, Culture, and Society: A Theoretical Overview." Pp. 17-42 in *Woman, Culture, and Society*, edited by Michelle Z. Rosaldo and Louise Lamphere. Stanford, Calif.: Stanford University Press.
- Ross, Catherine. 1987. "The Division of Labor at Home." *Social Forces* 65:815-33.
- Rubin, Lillian B. 1976. *Worlds of Pain: Life in the Working Class Family*. New York: Basic.
- Scanzoni, John H. 1971. *The Black Family in Modern Society*. Boston: Allyn & Bacon.
- Seber, G. A. F. 1977. *Linear Regression Analysis*. New York: Wiley.
- Shelton, Beth Anne. 1992. *Women, Men, and Time: Gender Differences in Paid Work, Housework, and Leisure*. Westport, Conn.: Greenwood Press.
- Sørensen, Annemette, and Sara McLanahan. 1987. "Married Women's Economic Dependency, 1940-1980." *American Journal of Sociology* 93:659-87.
- Spitze, Glenna. 1986. "The Division of Task Responsibility in U.S. Households: Longitudinal Adjustment to Change." *Social Forces* 64:689-709.
- Stafford, Rebecca, Elaine Backman, and Pamela Dibona. 1977. "The Division of Labor among Cohabiting and Married Couples." *Journal of Marriage and the Family* 39:43-57.
- Thompson, Linda, and Alexis Walker. 1989. "Gender in Families: Women and Men in Marriage, Work, and Parenthood." *Journal of Marriage and the Family* 51: 845-71.
- Tobin, James. 1958. "Estimation of Relationships for Limited Dependent Variables." *Econometrica* 26:24-36.
- Turner, J. Blake. 1992. Review of *Workings of the Household: A U.S.-U.K. Comparison*, by Lydia Morris, and *Husbands at Home: The Domestic Economy in a Post-industrial Society*, by Jane Wheelock. *Contemporary Sociology* 21:247-49.
- Tversky, Amos, and Daniel Kahneman. 1986. "Rational Choice and the Framing of Decisions." *Journal of Business* 59:251-78.
- Waite, Linda, and Frances K. Goldscheider. 1992. "Work in the Home: The Productive Context of Family Relationships." Pp. 267-99 in *The Changing American Family*, edited by Scott J. South and Stewart E. Tolnay. Boulder, Colo.: Westview Press.
- Walby, Sylvia. 1986. "Gender, Class, and Stratification: Toward a New Approach." Pp. 23-29 in *Gender and Stratification*, edited by R. Crompton and M. Mann. Cambridge: Polity Press.
- West, Candace, and Don Zimmerman. 1987. "Doing Gender." *Gender and Society* 1:125-51.
- Wheelock, Jane. 1990. *Husbands at Home: The Domestic Economy in a Post-industrial Society*. London: Routledge.
- Williams, Christine. 1989. *Gender Differences at Work*. Berkeley and Los Angeles: University of California Press.
- Wonnacott, Ronald, and Thomas Wonnacott. 1979. *Econometrics*, 2d ed. New York: Wiley.

# Returns to Skill, Compensating Differentials, and Gender Bias: Effects of Occupational Characteristics on the Wages of White Women and Men<sup>1</sup>

Barbara Stanek Kilbourne  
*Vanderbilt University*

Paula England  
*University of Arizona*

George Farkas and Kurt Beron  
*University of Texas at Dallas*

Dorothea Weir  
*Dallas Independent School District*

A regression model with fixed-effects and national individual-level panel data (1966–81) is used to decompose the sex gap in pay. In accordance with neoclassical predictions from human capital theory, net positive returns to individuals' education and experience and to occupations' cognitive and physical skills are found. While sex differences in experience have large effects on the sex gap skill contributes little to the gap. In accordance with cultural feminist predictions, negative returns to being in an occupation with a higher percentage of females or requiring more nurturant social skill are found. These forms of gendered valuation contribute significantly to the sex gap in pay. In contrast to the neoclassical prediction of compensating differentials, the analysis did not find consistently positive effects for onerous physical conditions, nor did these have much effect on the gap.

## INTRODUCTION

Do employers pay both men and women in one occupation less than those in another occupation with equivalent demands for skill and equally onerous working conditions when a higher percentage of the

<sup>1</sup> This research was supported by grants from the National Science Foundation and the Rockefeller Foundation to Paula England and George Farkas. We thank Mark Hayward for providing machine-readable data from the *Dictionary of Occupational Titles* for 1960 categories. The data were assembled by Thomas Daymont and Ronald D'Amico. Correspondence may be addressed to Barbara Stanek Kilbourne, Department of Sociology, Vanderbilt University, Nashville, Tennessee 37240.

workers in the second occupation are women or when the job requires skills, such as nurturant social skill, associated with women? These two kinds of gender bias are at issue in policy debates over comparable worth, often called "pay equity." We sketch and test a cultural feminist theory that predicts these two gendered processes of valuation. Is the sex gap in pay affected by women's and men's differential placement across occupations that vary in demands for cognitive, social, and physical skills and physically onerous working conditions? Neoclassical theories of human capital and compensating differentials suggest that these factors are important. Our findings below support some but not all the predictions from neoclassical theory and support our two predictions from cultural feminist theory.

## PAST THEORIZING AND RESEARCH

For an occupational characteristic to contribute to the sex gap in pay, two things must be true. First, women and men must be differentially distributed across occupations such that the jobs occupied by men and women have different average levels of this characteristic. Second, the characteristic must affect pay. We concentrate the review below on how occupational characteristics affect wages and which characteristics differentiate the jobs held by men and women.

### The Neoclassical Theory of Human Capital

The neoclassical economic theory of human capital states that pay differences between individuals are explained by human capital, the stock of skills a person possesses (Becker 1971; Mincer 1974). In this view, employers have to pay more for skilled workers if gaining these skills was an "investment" (i.e., involved a present cost for a potential future benefit) that the marginal worker would not make without compensation. Marginalism is best understood by imagining workers lined up in order of how much compensation they would require to invest in this human capital, with those requiring no wage premium first. If we go down this line until the jobs are filled, the marginal worker is the last worker hired. The supply side of human capital theory contends that the marginal worker requires a return to be induced to invest in many kinds of human capital. The demand side of human capital theory states that profit-maximizing employers will hire more expensive skilled workers only in jobs where these extra skills increase productivity, and hence profits, enough to cover the higher labor cost (Lang and Dickens 1988).

Most studies operationalize human capital with years of schooling or job experience (which is a proxy for on-the-job learning). However, the

theory should apply to all kinds of skills (cognitive, social, or physical) and to learning that takes place in any setting (in school, vocational training programs, and on-the-job training, or through informal socialization). It should also apply whether the prospective worker makes the investment or someone makes it on his or her behalf. All these types of learning involve either out-of-pocket costs (e.g., tuition) or opportunity costs (e.g., wages or leisure foregone while learning).

Human capital theory has implications for pay differences within and between occupations. Our interest is in the latter, so we review studies with occupational characteristics as independent variables. Occupations that require higher levels of cognitive skills and education pay higher wages (England and McLaughlin 1979; England, Chassie, and McCormick 1982; Steinberg et al. 1986; Parcel and Mueller 1989; Parcel 1989; England 1992). Some (Kohn and Schooler 1969; Cain and Treiman 1981; Parcel and Mueller 1989) refer to this as "substantive complexity." Despite its positive return for both men and women, this occupational dimension contributes little to the sex gap in pay, because the occupations in which women work require only slightly less of such skill (England et al. 1982; England 1992). Compared to men, women are in occupations requiring about the same level of education but offering less on-the-job training (Corcoran 1979; England 1992).

Findings regarding the effects of occupations' demands for physical skills on wages conflict. With few controls for working conditions, physical strength and other physical skills often show negative or no effects (England and McLaughlin 1979; England et al. 1982; Sorensen 1989*b*). Even with working conditions controlled, Parcel (1989) found the factor "physical dexterity/perceptual ability" to have no significant effects on 1980 wages of men or women. Parcel and Mueller (1989) found a similar factor to have a positive effect on men's 1970 wages but no significant effect on their 1980 wages or on women's 1970 or 1980 wages. With more elaborate controls for working conditions, England (1992, chap. 3) found net wage premiums for some physical skills, but they explain only a tiny percentage of the sex gap in pay.

How do demands for social skills affect wages? England and McLaughlin (1979) found that men, but not women, gain from working in jobs requiring social skills. However, their measure did not differentiate between the nurturant social skill involved in helping a customer or client and the authoritative social skill involved in managing or supervising other workers. To refine this, England (1992) distinguished two types of social skill, nurturance and authority. For both men and women, she found occupational demand for nurturant social skills to be penalized but for authority to be rewarded, and women's greater concentration in occupations requiring nurturance and men's in those requiring authority

explains about 6% of the 1980 sex gap in pay. The New York State pay equity study also found that being in a supervisory position enhances pay and that demands for social skills such as communication with the public and group facilitation have net negative effects on wages (Steinberg et al. 1986; Jacobs and Steinberg 1990a). The positive return to supervisory social skill found in these studies is consistent but the negative return to nurturant social skill is inconsistent with human capital theory.

### The Neoclassical Theory of Compensating Differentials

Sometimes occupations differ in pay even after adjustments for human capital requirements. If the differences endure, they cannot be explained by temporary disequilibria from shortages or gluts. Neoclassical theory explains these long-term disparities by the notion of compensating differentials (Smith 1979; Rosen 1986). In this view, the full pay of a job consists of both pecuniary (wage) and nonpecuniary compensation, the latter being the (dis)utility experienced while doing the work. This might include the interest, boredom, discomfort, or danger of the work. According to the theory, jobs with more comfortable, less hazardous working conditions can be filled with lower wages, *ceteris paribus*. How much higher the wage needs to be in onerous jobs depends on the tastes of the marginal worker (not the average worker). According to the theory, market forces require that the wage paid to the marginal worker in a job also be paid to all otherwise equivalent workers in the job (Smith 1979). A single analysis cannot both test the theory of compensating differentials and ascertain which working conditions are amenities and which are disamenities to the marginal worker. If the theory is assumed to be true, empirical tests of which working conditions have net positive (negative) returns tell us what conditions are perceived by the marginal worker as disamenities (amenities). Alternatively, if we assume that a given working condition is perceived by the marginal worker as a disamenity (amenity), then the test of the theory is whether it has a net positive (negative) effect on wages. We adopt the latter strategy, making our test subject to assumptions about what is a disamenity.

Our test of compensating differentials focuses on the physical discomfort and hazards associated with occupations (rather than on nonphysical disamenities). Smith's (1979) and Brown's (1980) reviews conclude that a compensating differential is found for the risk of death, but that findings for unpleasant and hazardous working conditions are inconsistent. Barry (1985) and Filer (1985) found that men, but not women, receive a premium for hazardous work. Sorensen (1989b) found that hazardous working conditions lower women's wages in predominantly female occu-

pations. England (1992) found no penalties or premiums for hazards or other physical disamenities for either men or women. No significant effects of "undesirable working conditions" were found in 1970 or 1980 by Parcel and Mueller (1989) or Parcel (1989). Parcel and Mueller (1989) did find a factor that combined physical activities and physically onerous working conditions to yield wage premiums for women in 1970 and for both sexes in 1980. Jacobs and Steinberg's (1990*a*, p. 452; 1990*b*) analysis of New York State government jobs showed only one of 14 measures of onerous working conditions to have a statistically positive effect on pay (working with sick patients), while five such variables had significant negative effects (cleaning others' dirt, loud noise, strenuous physical activity, repetition, and being told what to do). Jacobs and Steinberg (1990*a*) also reviewed comparable worth studies from six other states and one county in New York and reported that onerous working conditions far more commonly had negative rather than positive effects on earnings.

Only one study has investigated compensating differentials with longitudinal data and a model with fixed effects similar to the method that we employ here (Duncan and Holmlund 1983). Premiums were found for both men and women working in dangerous or physically taxing jobs. Overall, findings are mixed on whether job characteristics that we might assume to be physical disamenities lead to wage premiums.

### Neoclassical Theory and Discrimination

Most neoclassical economists doubt the existence of the sort of gender bias in wage setting that we address here (Filer 1989; Killingsworth 1985). They do not believe that market forces will allow employers to pay a discriminatory wage (one lower than that predicted by human capital and compensating differentials) in certain occupations simply because those in the job are predominantly female or because the skills required are stereotypically associated with women. Some economists do posit "crowding," a situation in which predominantly female occupations pay less as a result of hiring discrimination against women who seek to enter predominantly male occupations (Bergmann 1986). The reasoning is that, because employers will not hire women in desirable "male" occupations, the supply of labor for "female" occupations is artificially increased, and thus wages in the female occupations are lowered. But the hiring discrimination in male jobs to which the crowding thesis traces the low wages in female jobs is itself an anomaly within neoclassical theory. Hiring discrimination, particularly that based on the tastes or biases of employers, should eventually be eradicated by competitive market processes (Arrow 1972; England 1992, chap. 2). The idea is that employ-

ers who will not hire women are paying a premium for male labor, making their profits lower, and making the probability higher that they will go out of business or lose product market share. Thus, economists generally doubt that gender bias lowers the wages of female occupations.

### A Cultural Feminist Theory of Gendered Valuation

We label as "feminist" any perspective that denies the necessity of current levels of gender inequality in rewards, seeing such inequality to be socially constructed, at least in part. The normative portion of feminist theories argues that such inequality *should* be eradicated, while positive portions of feminist theory focus on the mechanisms that create and sustain such inequality. We offer a model of "gendered valuation" to provide part of the explanation for the sex gap in pay and other forms of gender inequality. The central proposition is that cultural processes of valuation are gendered; because women are devalued, social roles (including occupations) and skills that are associated with women are culturally devalued relative to those associated with men. This perspective is consistent with "cultural feminism," the label we use for feminist theories that see the devaluation of women and things associated with them as an important cause of gender inequality.<sup>2</sup>

If cultural values affect what jobs employers value more, and such valuation includes a bias against any job or skill associated with women, then we can predict that predominantly female occupations will pay less than predominantly male occupations, *ceteris paribus*. We can also predict that nurturant skill will be badly rewarded because of its association with women. Although we will test implications of this view for how occupational characteristics affect rewards, it has relevance to nonoccupational roles as well. Examples include the low level of economic security attached to child rearing and household work, whether done for pay or as a homemaker. Many societies devalue whatever tasks they assign to women, as this perspective would predict (Shepela and Viviano 1984).

Our choice of the terms "cultural" and "valuation" does not imply that we see an exogenous variable that is ideal rather than material. Materially based male power is undoubtedly one reason men succeed in

<sup>2</sup> Echols (1983) and Alcott (1988) use the term "cultural feminism" to refer to feminism that revalorizes traditionally female activities that have been devalued because of sexism *and* sees women's nurturing as innate or essential to being a woman. We include the former valuation but not the latter essentialism in our definition of cultural feminism.



getting their roles defined as more valuable and rewarded. We believe that material and ideal phenomena affect each other reciprocally, so that men's material resources are, at least in part, a product of men's roles being socially defined as more valuable. Our point in labeling the perspective "cultural" is to emphasize the role of the devaluation of typically women's activities in generating gender inequality. Such devaluation affects either men or women who do "women's work."

Sociological work on comparable worth provides evidence for this perspective. It documents a form of sex discrimination in which occupations are paid less than others with equivalent job content because they contain mostly women or involve skills associated with women. Studies have shown that the percentage female in an occupation has a net negative effect on pay, after controlling for occupations' demands for education, other measures of cognitive skill, physical skill, social skill, and onerous working conditions (England et al. 1982; Steinberg et al. 1986; England et al. 1988; Baron and Newman 1989; Parcel 1989; Sorensen 1989a; England 1992; see Sorensen [1989c] for a review). One mechanism of such devaluation may be the cognitive error of not seeing how much female occupations contribute to the "bottom line" of profit or other organizational goals. Or women's jobs may be devalued because they are erroneously believed to require less effort than men's jobs, because typically female types of effort are culturally invisible. Once interoccupational wage differences are in place, institutional inertia keeps gender-biased interjob wage difference in force.

Another gendered form of devaluation relevant to occupational wage setting is the devaluation of a skill because it is usually (or has historically been) exercised by women (Steinberg and Haignere 1987; Steinberg 1990). Because of these gendered associations, such skills may be devalued across occupations with a range of sex compositions; thus, this is not the same thing as devaluation due to the current sex composition of an occupation. A good example of a skill type associated with women is nurturant skill, the sort of social skill involved in providing a face-to-face service to clients or customers of an organization. Such activity is seen as female because of its relationship to the nurturant behavior entailed in parenting, done primarily by women, and because nurturant paid jobs are usually filled by women.

Our review (above) of research on returns to social skills supported our perspective on gendered devaluation more than it supported human capital theory. Human capital theory suggests that all skills should have positive returns if they require investment. Yet, in those few studies that measured nurturant social skills, occupations requiring such skill were found to pay less than occupations with no such requirement, controlling for other skill demands, working conditions, and the current sex composi-

tion of the occupations (Steinberg et al. 1986; England 1992, chap. 3; England et al. 1994). Our analysis will take nurturant skills to be the exemplar of a skill associated with women and will test whether it is devalued. We will consider it to be devalued relative to other skill types if it has either no returns or negative returns.

Sociologists' findings about the devaluation of female occupations and nurturant work are consistent with broader interdisciplinary feminist literature criticizing the devaluation of emotional work in Western culture. The contributions made by emotional nurturance and intimacy have been downplayed in developmental and clinical psychology—seen as natural, original states to be overcome rather than skills to be developed to help oneself and others have a full life (Gilligan 1982; Kittay and Meyers 1987; Keller 1986). The devaluation of emotions is also seen when philosophers of science regard emotional connection as a contaminating distorter rather than a possible route to knowledge (Keller 1985; Schott 1988). The disinclination to use words denoting work for emotional work in sociological theories is also evidence of such devaluation. This is seen in the words Parsons (1954) chose for the "instrumental/expressive" distinction. He chose the term "expressive" to describe the traditionally female tasks of child rearing and household work, a term that connotes self-indulgence rather than work.

### Specific Research Hypotheses

On the basis of the review above, we test predictions from neoclassical and cultural feminist theory. Table 1 summarizes the testable predictions. All are for net effects. No differences in returns for men and women are predicted. The neoclassical theory of human capital predicts positive returns to individual-level skill, measured here by experience and education, and to occupational demands for any kind of skill—cognitive, physical, authoritative, or nurturant. It predicts no effect of occupational sex composition, since discrimination of any form is believed to erode in competitive markets. The neoclassical theory of compensating differentials predicts positive returns to physical disamenities since employers will be unable to fill more onerous jobs without paying a premium. The cultural feminist theory of gendered valuation generates two predictions—that the percentage female in one's occupation has a negative effect on wages and that nurturant social skills are devalued because of their association with women, and thus have either no return or a negative return. (A return of zero would constitute devaluation if other skill types received positive returns.)

## DATA, MODEL, VARIABLES, AND HYPOTHESES

## Data

We analyze data from the young women's and the young men's cohorts of the National Longitudinal Survey (NLS). The data are from a national probability sample of women aged 14–24 in 1968 and of men aged 14–24 in 1966. We use 1968, 1969, 1970, 1971, 1972, 1973, 1975, 1977, 1978, and 1980 female waves and 1966, 1967, 1968, 1969, 1970, 1971, 1973, 1975, 1976, 1978, 1980, and 1981 male waves, pooling the male and female data together. Each of the male and female panels contains approximately 5,000 individuals. (The data are described in Center for Human Resource Research, Ohio State University [1983].) We confine analysis to whites. We have arranged the longitudinal data into a pooled cross-section time series in which the unit of analysis is an individual in a particular year. We deleted person-years in which the individual was not employed or was employed part-time (less than 35 hours per week).

## Fixed-Effects Regression Model and Decomposition

We use a model with fixed effects (Judge et al. 1982) to control for otherwise unmeasured year-specific (period) and person-specific effects. The model is

$$Y_{it} = b_0 + \sum b_k X_{kit} + e_{it}, \quad (1)$$

where

$$e_{it} = u_i + v_t + w_{it}. \quad (2)$$

Regression coefficients are denoted by  $b$ ,  $k$  indexes measured independent variables ( $X$ 's),  $i$  indexes individuals,  $t$  indexes time periods,  $e$  is error terms,  $u$  is the cross-sectional (individual) component of error,  $v$  is the timewise component of error,  $w$  is the purely random component of error, and  $b_0$  is the intercept. The dependent variable,  $Y$ , is the natural logarithm of hourly earnings. Because period effects on earning are controlled, it is not necessary to change earnings to constant dollars. The resulting coefficients are those that would be obtained if dummy variables for year and person had been included in OLS regression equations. We obtain these coefficients from this OLS model:

$$Y_{it}^* = b_0 + \sum b_k X_{kit}^*, \quad (3)$$

where

$$Y_{it}^* = Y_{it} - \bar{Y}_i - \bar{Y}_t + \bar{Y}, \quad (4)$$

and

$$X_{it}^* = X_{it} - \bar{X}_i - \bar{X}_t + \bar{X}. \quad (5)$$

That is, an OLS regression is fitted after subtracting from each variable its person mean and year mean and adding the grand mean (across person-years).<sup>3</sup>

The fixed-effects model yields estimates of the effects of occupational characteristics that are free from the sort of selection bias that results from misspecification due to omitted variables. The estimators are not contaminated with spurious effects of any stable, unmeasured individual characteristics that affect both earnings and the occupations into which individuals are selected. Such characteristics include sex, cohort, socioeconomic background, and unchanging aspects of skill, motivation, work habits, preferences, plans, and any other unmeasured human capital. Effects of these variables are controlled for by subtracting the person-mean from each observation; that is, persons serve "as their own controls." Thus, the model ensures that effects we attribute to occupational characteristics are not spurious results of the kinds of workers who enter such occupations. (Of studies reviewed above, only England et al. [1988] and Duncan and Holmlund [1983] used fixed effects.)

We use the regression results to decompose the sex gap in pay. A common technique is to decompose group differences in a dependent variable into proportions due to (1) different means on the independent variables, (2) different slopes, (3) different intercepts, and (4) an interaction between differences in slopes and intercepts. We can distinguish between 2 and 3 only when all independent variables have a nonarbitrary zero point (Jones and Kelley 1984; Aldrich and Buchele 1986), which is not true for our scales, which are based on the *Dictionary of Occupational Titles (DOT)*. Moreover, sex differences in men's and women's rates of return to occupational characteristics may reflect within-occupation differences. We are not interested in these here, but rather in differences in pay created by men and women's different distribution across occupations. Thus, we focus on how differences between men and women in

<sup>3</sup> Without correction,  $t$  statistics from the model in equation (3) would be inflated because degrees of freedom are not reduced to take account of the implicit variables for persons and time periods. To correct for this, we multiplied standard errors by  $\sqrt{NT - K} / \sqrt{NT - N - T - K + 1}$  (where  $N$  is the number of individuals,  $T = 12$ , the number of time periods, and  $K$  is the number of independent variables in the model).

their means on variables measuring occupational placement explain differences in their earnings. We ascertain this by multiplying the sex difference in mean for each variable by the slope that indicates its rate of return. Since we include interactions of all variables with sex, yielding information on the size of effect for men and women separately in cases of significant interactions, we face the problem of whether to use male or female coefficients. We provide both estimates, thus providing upper- and lower-bound estimates.

### Variables from the NLS

The natural logarithm ( $\ln$ ) of current hourly earnings is our dependent variable. Thus, coefficients, when multiplied by 100, reveal the percentage increase in wages for each one-unit increase in the independent variable.<sup>4</sup> Independent variables include marital status (presently married or not), hours usually worked per week on the current job, the percentage female (in 1970) in one's detailed census occupation,<sup>5</sup> education, employment experience, and industry. Education is the number of years of schooling completed by the survey year. Experience is the total number of weeks of employment (whether full- or part-time) since one year prior to the first survey wave.<sup>6</sup> Industry is measured by collapsing the 1960 detailed census industry categories into dummy variables: (1) agriculture, forestry, fisheries, mining, and construction, (2) manufacture of durable goods, (3) manufacture of nondurable goods, (4) transportation, communication, and other public utilities, (5) wholesale trade, (6) retail trade, (7) finance, insurance, and real estate, (8) business services, (9) personal

<sup>4</sup> This is true only for small changes in the independent variable. This is because of an analogue to compound interest and is particularly acute with dummy variables. However, for the coefficients here, making a correction (Halvorsen and Palmquist 1980) changes the results little and thus is not reported.

<sup>5</sup> NLS data code respondents' occupation in 1960 census categories. We merged the percentage female in 1970 categories in each 1960 category onto the file from documentation in the codebook for the National Longitudinal Survey of Mature Women. This 1970 data is closer to the years in our data.

<sup>6</sup> NLS data provide no measure of employment experience prior to a year before the survey. However, given our fixed-effects model, any additive effects of unmeasured prior experience are controlled. Our model includes experience since one year before the first survey wave. In each wave, respondents were asked how many weeks they were employed in the prior year. We added these entries to compute work experience accumulated by any given year. For the years in which no survey was conducted (1974 and 1979 for women and 1972, 1974, 1977, and 1979 for men), we averaged the experience reported for the preceding year and the following years and used this average as an estimate for the missing year. We have not included the square of years of experience to capture diminishing returns to experience in the later life cycle because of the youth of our sample.

services, (10) professional services, (11) entertainment and recreational services, and (12) government. These variables are included to control for the possibility that occupations with a high percentage of women are concentrated in marginal industries. Some analyses have found women overrepresented in such industries (Beck, Horan, and Tolbert 1980; Hodson and England 1986; Coverdill 1988). Controlling for industry is based on the assumption that industries with low wages do not have low wages because of the sex composition of occupations in the industry, but because of factors such as low profits, lack of oligopoly, and labor-intensive production. However, we also report on models (results not shown) that exclude industry. These are the preferred models if we assume that industries' overall wage levels are affected by a preponderance of heavily female occupations. Our basic conclusions hold with either model.

#### Measurement of the Skill Demands and Working Conditions of Occupations

Regressions include factor-guided scales measuring the demands of one's occupation for cognitive skill, physical skill, and nurturant social skill and measuring three physical working conditions assumed to be disamenities—exposure to hazards, exposure to hot and wet conditions, and exposure to cold. The scales were constructed from manipulations involving a set of occupational characteristics from the fourth edition of the *DOT* (U.S. Department of Labor 1977) and are described in the appendix. We also computed a dummy variable for whether the occupation requires the exercise of authority, measured by coding as "1" occupations with "supervisor" or "manager" in their title. The normalized score for this variable enters the regressions.

#### FINDINGS

Table 1 presents unstandardized coefficients from regression models with fixed effects. Since the occupational scales were formed by computing unweighted averages of *Z*(standardized) scores for several *DOT* (or other) items, with the *Z* scores standardized across all black and white men and women, the coefficients (times 100) reveal the percentage change in wage associated with one of these units on the scale. We included the interaction of each independent variable with sex, coding females as "1" on the dummy variable for sex; after ascertaining which interactions were significant, we reestimated the equation including only significant interaction effects; table 1 presents this final model. When interaction effects are significant, this means that the return on this independent

TABLE 1

PREDICTED SIGNS AND COEFFICIENTS FROM MODELS PREDICTING IN HOURLY WAGE

VARIABLE	COEFFICIENTS	COEFFICIENTS FOR INTERACTION WITH SEX	SIGN PREDICTED BY THEORIES	
			Neoclassical	Cultural Feminist
Individual characteristics:				
Experience .....	.0018*/* (114.4)	.0001* (5.5)	+	NP
Education .....	.1134*/* (47.4)	-.0117* (6.4)	+	NP
Married .....	.1123*/ (18.5)	-.1162* (11.8)	NP	NP
Occupational skill demands:				
Cognitive skill .....	.0237*/* (5.4)	.0632* (7.9)	+	NP
Physical skill .....	.0367*/* (7.7)	NS <sup>a</sup>	+	NP
Authoritative skill .....	.0057*/ (2.6)	-.0117* (2.2)	+	NP
Nurturant skill .....	-.0252*/* (5.6)	-.0210* (3.1)	+	- or 0
% female .....	-.0004*/* (2.4)	-.0006* (2.5)	0	-
Physical disamenities:				
Hazards .....	-.0247*/* (5.3)	.0628* (6.7)	+	NP
Hot and wet .....	-.0080*/* (2.4)	.0362* (3.7)	+	NP
Cold .....	.0070*/* (2.5)	-.0303* (2.4)	+	NP

NOTE.—Asterisk before slash denotes significance ( $P < .05$ , two tailed test) for men; asterisk after slash for denotes significance for women. See text. All interaction terms are the variable in the row multiplied by sex (female = 1); asterisk without slash denotes a significantly different return for men and women. Regression also included industry dummies. Where interactions with sex are included, the coefficient on the main effect (the individual or occupational characteristic) is the effect for men (because, since men were "0," the interaction is "0" times some number, and thus equals "0" for men). The coefficient on the interaction reveals how different the effect of the variable is for women than men. Thus, the effect for women is the main effect plus the coefficient on the interaction. NP = no prediction.  $N = 29,810$ . Figures in parentheses are  $t$ -statistics

<sup>a</sup> Interaction of sex and physical skill demand not included in this model because it was not significant when a model that included it was run.

variable is significantly different for men and women and that the women's slope differs from the men's by the amount of the coefficient on the interaction effect. The coefficients other than interactions can be interpreted as the returns for men, since males are coded "0" and hence the interaction term of sex times the independent variable is zero for men. The significance of the slope for men is given by the significance of these coefficients. We tested separately for the significance of the female coefficients (by running a model in which sex was coded so males were "1," so that coefficients on noninteractive independent variables reveal effects for women); table 1 reports significance levels for both men and women (before and after the slash, respectively) separately.

Table 1 shows positive and significant effects of education and experience, consistent with individual-level predictions from human capital theory, with significant but trivial differences between men's and women's returns. The unusually large returns to education seen here reflect the fact that our measure of education is only time varying across person-year observations that occur after the first full-time job during survey years. Since fixed-effects wage models base coefficients on how individuals' changes on predictors relate to changes in wages, the education coefficients measure rates of return to years of education after first job, which are larger than returns for earlier years of education. Being married has significantly positive effects on men's wages, but nonsignificant effects on women's.

Human capital theory predicts positive returns to cognitive skill demands. A positive and significant effect is found for both men and women (table 1), and the return is significantly larger for women ( $.0237 + .0632 = .0869$ ). Women gain over 8% for every one-unit increase on the cognitive skill demand scale; men gain over 2%. If we exclude education from the equation, and let any returns to the greater average education of those in jobs requiring more cognitive skill be included in the coefficients for cognitive skill, the effects (not shown) become slightly larger (.0654 for men and .1074 for women), but still significantly larger for women.

Human capital theory also predicts that occupations requiring more physical skill will pay more. Table 1 shows a significant coefficient on physical skill of .0367, which does not vary significantly by sex; it indicates that moving to a job requiring one more unit of physical skill increases earnings by over 3%.

Human capital theory also predicts that occupations requiring more authoritative social skill will pay more. Table 1 shows a significant positive return for men, such that those one unit higher on the authority scale make .57% more. Yet the significant negative interaction effect shows returns to be significantly lower for women than for men; returns for women are nonsignificant.



The last kind of occupational skill demand considered is nurturant social skill, for which human capital theory predicts a positive return while the cultural feminist theory of gendered valuation predicts a negative or zero return. We find a significantly negative return for both men and women. The significant coefficient  $-.0252$  shows that each one unit increase in occupations' demand for nurturant social skill lowers men's wages by over 2% (table 1). Women's return is significantly more negative; the significant coefficient for the interaction term shows that the effect for women is  $-.0462$  ( $-.0252 + -.0210 = -.0462$ ), indicating a loss in pay of over 4% for each one unit of increase in nurturant social skill. This is evidence of a devaluation of nurturance, which we believe results from the association of nurturance with women. It is contrary to the positive return predicted by human capital theory and is also contrary to the contention of neoclassical theory that all forms of gender bias should erode in competitive markets.

The cultural feminist theory of gendered valuation predicts a negative effect of occupations' percentage female on wages, while neoclassical theory predicts no effect. The significant coefficient of  $-.0004$  tells us that men's wages decrease .04% for each one-point increase in occupational percentage female (table 1). Thus, if a man moved 100 units of percentage female, from an all-male to an all-female occupation, his pay would go down by about 4%. This effect is significantly larger for women ( $-.0004 + -.0006 = -.0010$ ), indicating that women would lose 10% of their pay from such a move from a male to a female occupation, assuming the occupations are equivalent in their skill demands and disamenities. This negative effect on wages of being in a predominantly female occupation indicates a gendered process whereby occupations are devalued if they contain more women. Insofar as our scales adequately control for occupations' demands for skills and working conditions, our findings contravene the neoclassical view that gender discrimination cannot persist in competitive labor markets and that any earnings differences between male and female occupations are explained by differing requirements for human capital or (dis)amenities leading to compensating differentials.

Physical disamenities are predicted by the neoclassical theory of compensating differentials to have positive effects on wages. Table 1 shows that being in an occupation involving one extra unit of hazards significantly depresses men's wages by over 2% but significantly increases women's wages by over 3% ( $-.0247 + .0628 = .0381$ ). Working in an occupation with hot or wet conditions depresses men's wages by a trivial but significant amount and increases women's wages by a significant amount—over 2% for a one-unit change ( $-.0080 + .0362 = .0282$ ). Exposure to cold conditions provides men with a positive compensating

differential, although its magnitude is trivial—an increase of .7% for a one-unit change in cold; however, women receive a significant wage penalty of about 2% ( $.0070 + -.0303 = -.0233$ ). Thus, of the six tests for compensating differentials for physical disamenities (three variables  $\times$  two genders), all are significant, but only three show the predicted positive returns, and all are very modest in size. If these constructs do indeed measure disamenities for the marginal worker, the theory's prediction of compensating differentials for physical disamenities receives quite limited support.

We next use the regression results, together with sex differences in means on each of the variables, to perform a decomposition of the sex gap in pay. Our goal is to ascertain how much women's and men's placement into occupations differing in their skill demands, working conditions, and sex composition affects the sex gap in the log of pay. Table 2 presents various descriptive statistics, including sex-specific means. Its rightmost two columns present the percentage of the logged wage gap explained by sex differences in means for each independent variable. If this percentage is computed by multiplying the sex difference in mean by the male slopes, and dividing by the total gap in log of pay, we answer the question of what percentage of the gap would be closed if men moved to the female mean, but retained their own rate of return. With female slopes, we assess what would happen if women moved to the male mean but retained their own rate of return. We present both; they can be considered lower- and upper-bound estimates of the contribution of sex differences in means to the pay gap.

Table 2 shows that the sex gap in pay in these data was \$2.02, with full-time young women workers earning 62% of the male average. (Recall that wages are in dollars current to the year in question, from 1966 to 1981, so dollar amounts would be much larger in 1981 or in present dollars.) The gap in logged cents per hour, .413, is what is formally decomposed here. Starting with the individual-level variables, table 2 shows that men, on average, have almost one year (48 more weeks) more experience than women. This explains 21%–24% of the sex gap in pay, depending on whether female or male slopes are used. Men's tiny edge over women in education (about .1 year) explains 4% of the pay gap.<sup>7</sup>

<sup>7</sup> This is undoubtedly an overestimate of education's role in the sex gap in pay. The fixed-effects model captures the returns to education obtained after the first full-time job. They are about double those found in most other studies, which suggests that returns to "adult" schooling are greater than returns to earlier schooling. However, the decomposition takes the mean differences between men and women for education obtained at any time and multiplies them by education coefficients that pertain only to postjob education. This is an unfortunate side effect of fixed-effects modeling, but one we think is outweighed by the other benefits of such modeling.

TABLE 2

UNIVARIATE STATISTICS AND DECOMPOSITION OF  $\ln$  WAGE GAP BETWEEN MEN AND WOMEN: PERCENTAGE OF GAP EXPLAINED BY MEAN DIFFERENCES ON INDEPENDENT VARIABLES

Variable	Pooled Mean	Pooled SD	Range	Male Mean	Female Mean	Percentage Explained Using Male Slope*	Percentage Explained Using Female Slope*
<b>Individual characteristics:</b>							
Experience (weeks).....	302.04	207.65	0-1,198	319.37	270.50	21	24
Education (years).....	12.99	2.40	0-18	13.04	12.89	4	4
Married .....	.62	.49	0-1	.65	.55	3	0
<b>Occupational skill demands:</b>							
Cognitive skill.....	.11	.90	-2.00-2.76	.15	.05	1	2
Physical skill.....	.05	.73	-1.16-2.25	.07	.02	0	0
Authoritative skill .....	.13	1.22	-.32-3.41	.29	-.15	1	-1
Nurturant skill .....	.06	.90	-1.05-1.64	-.10	.36	3	5
% female .....	37.76	34.36	.40-99.00	19.51	70.97	5	12
<b>Physical disamenities:</b>							
Hazards .....	-.03	.88	-.65-3.66	.20	-.46	-4	6
Hot and wet .....	-.02	.80	-.24-7.84	.05	-.15	0	1
Cold .....	-.04	.87	-.13-14.89	0	-.11	0	-1
Industry dummies† .....						2	2
Wage (\$/hr.) .....	4.55	3.14	.03-57.80	5.26	3.24		
$\ln$ Wage ( $\ln$ $\phi$ /hr.) .....	5.92	.64	1.10-8.66	6.06	5.65		

\* Percentage of gap explained is  $(\bar{X}_m - \bar{X}_f) b / .413$ , where  $\bar{X}_m$  is male mean,  $\bar{X}_f$  is female mean,  $b$  is slope (taken or computed from table 1), and .413 is difference between male and female  $\ln$  wage.

† Results from computing percentage explained for each industrial dummy and summing across them.

Thus, individual-level human capital, in the form of employment experience, is one major component of the sex gap in pay, as other studies have also shown (Corcoran and Duncan 1979), but the role of education in the sex gap in pay is very minor.

Table 2 shows that men are in occupations that require, on average, one-tenth (.10) of a unit more cognitive skill. Thus, despite fairly large returns to cognitive skill, this variable explains only 1%–2% of the sex gap in pay. Physical skills contribute less than .5%. This small contribution results from the relatively small mean sex difference in combination with the relatively low returns. Although men, on average, tend to work in occupations that require them to exercise more authority, the returns to authority are small for men and insignificant for women. Thus, at least among these young workers, authority explains virtually none of the sex gap in pay.

None of the three working conditions make contributions of more than 1% to the pay gap, with the exception of hazards, which explain 6% if female slopes are used. However, hazards contribute negatively if men's negative returns are used, since men are in occupations that score higher on hazards and they face a net penalty for being in such jobs. Overall, then, even though men are more likely than women to be in occupations with those types of physical disamenities we measured, the lack of consistent compensating differentials for physical disamenities for either sex makes these conditions unimportant in explaining the sex gap in pay.

How much of the sex gap in pay is explained by gendered devaluation of occupations because they contain women or require skills associated with women? With respect to effects of occupational sex composition, the average man was in an occupation that was 20% female and the average woman in an occupation that was 71% female, which gives a mean sex difference for this variable of 51%. This explains between 5% and 12% of the sex gap in pay. We took the net negative effect of requirement for nurturant social skills to be evidence of a gendered process by which skill types associated with women are devalued. Women and men differ by .46 units in the mean level of required nurturant social skill of their occupations, with women in occupations requiring more. This difference explains between 3% and 5% of the pay gap, depending on the slope used. If we add the contributions of the devaluation based on occupational sex composition and on nurturant social skill demands, they explain between 8% (if male slopes are used) and 17% (if female slopes are used) of the sex gap in pay. This is evidence that gendered processes of valuation of occupations and skills have an appreciable effect on the sex gap in pay.

## Robustness of Findings to Alternative Specifications

We have checked the robustness of our findings by using different specifications to check the sensitivity of our conclusions to several assumptions. First, we have performed an analysis like that in tables 1 and 2, except with separate models for men and women that allow us to enter Heckman-style instrumental variables to correct for the type of selectivity bias that may result from selection into full-time employment. Individuals who receive low wage offers may choose nonemployment, an especially likely option for women since gender ideologies and higher male earnings make more women than men become homemakers. To remove such bias, we used a version of Heckman's (1979) correction for sample selectivity proposed by Berk (1983). First, we performed probit regression analyses on the pooled person-year data to predict full-time employment from education, experience, marital status, number of children age six or under, and husband's annual income (coded "0" if unmarried). We computed an inverse Mill's ratio, a measure of the likelihood of full-time employment. This measure was an instrumental variable in the female earnings regression, necessitating separate models for men and women. Coefficients and decomposition results differed a bit from those presented here but not in their overall conclusions—that sex differences in experience are salient for the sex gap in pay, that the devaluation of predominantly female occupations and nurturant work contribute to the sex gap in pay, that evidence does not consistently support compensating differentials and they play no role in the sex gap in pay, and that cognitive and physical skill demands of occupations affect pay but have little role in the sex gap in pay. Given the trivial effects this correction had on the magnitude of coefficients, we do not recommend such corrections for future research on women's wages.

We also considered the contribution of education and experience from a reduced-form model that omitted occupational and industrial variables, on the assumption that some of the effects of education and experience may operate through their effects on placement in occupations or industries. We were surprised to find that the coefficients on education and experience in these models differed little from those in table 1, which led us to conclude that using the model in table 1 for decomposition does not underplay the role of these variables in the pay gap.

Finally, we considered results from models that removed the industrial dummy variables, on the argument that inclusion of these variables may lead to an underestimate of the devaluation of predominantly female and nurturant jobs if industries with an occupational mix tilted toward these jobs have low average pay *because* of gender-biased pay in them rather

than for reasons exogenous to the occupational mix. With industry not controlled, the negative effects of occupational percentage female are approximately twice as large and effects of nurturant skill are somewhat larger. Thus, our estimates of gendered devaluation may be overly conservative. On the other hand, if industry averages on wages are determined exogenously to occupational sex composition, affected by forces such as oligopoly and capital intensity, our estimates in table 1 are appropriate.

## CONCLUSIONS

Overall, our findings regarding the individual characteristic of experience confirms the importance of human capital theory in explaining between a fifth and a quarter of the sex gap in pay. However, neither occupation-level demands for cognitive or physical skill nor physical disamenities explain much of the sex gap in pay. Thus, the mechanism through which occupational sex segregation produces a sex gap in pay is not that women are in occupations with low skill demands and less onerous working conditions. Rather, in accordance with the cultural feminist theory of gendered valuation, the processes determining which occupations pay well are gendered, such that occupations lose pay if they have a higher percentage of female workers or require nurturant skill.

What do our conclusions contribute to theory? We found some support for both the neoclassical theory of human capital and for the cultural feminist theory of gendered valuation. We found little support for the neoclassical prediction that occupations involving physical disamenities will provide wage premiums as compensating differentials or for the neoclassical contention that discrimination disappears from unaided market forces. Our interpretations hinge on certain assumptions, which we reiterate here.

We interpret the coefficient on occupational percentage female to indicate gender bias in wage setting that devalues female occupations. This interpretation is not vulnerable to the criticism that female occupations contain individuals lower on unmeasured human capital or on motivation to maximize pay, because our use of a fixed-effects model controls for all unchanging, unmeasured differences between individuals. The conclusion does, however, depend on the assumption that our model adequately controls for pay-relevant occupational characteristics. A neoclassical economist might argue that the effect is the spurious result of some unmeasured occupational characteristics, correlated with percentage female, that are amenities to the marginal worker and thus lead to lower pay according to the theory of compensating differentials. Alternatively, a neoclassical economist willing to admit that gender bias of some sort

is at issue, but not willing to admit that occupations are devalued because of their sex composition, might argue that female occupations pay less because they are more crowded than male occupations and see this crowding in female occupations to result from hiring discrimination against women seeking entry into male occupations.

We claim that the negative return to nurturant social skill indicates bias, the gendered devaluation of these skills because of their association with women. A neoclassical interpretation would be that there is no needed return to human capital of this type because the marginal worker likes nurturant work so much that he or she is willing to learn these skills without compensation and is even willing to take a lower wage for the nonpecuniary pleasure of doing such work. We find this interpretation implausible, but cannot categorically reject it.

We take the lack of consistently positive effects of working conditions that we presume the marginal worker would find onerous as evidence against the theory of compensating differentials. Our interpretation hinges on the assumption that these are disamenities to the marginal worker. An alternative interpretation is that these are not disamenities to the marginal worker, and that other occupational characteristics that are disamenities to the marginal worker do show compensating differentials. While this is possible, we are at least confident that we have demonstrated the lack of consistent compensating differentials for hazards, and for working conditions that are unusually wet, hot, or cold.<sup>8</sup>

If the reader is willing to make the assumptions we have made, our findings suggest a role for both human capital theory and the cultural feminist theory of gendered valuation in explaining between-occupation wage differences and the sex gap in pay.

## APPENDIX

### Creating Occupational Scales

Occupational characteristics from the *DOT* were merged onto our file according to the individual's detailed census occupational category for the given year. We reduced these 42 variables to six measures of skill demands and working conditions of occupations in our analysis. We began by performing principle components analyses of these *DOT* variables. We performed these analyses separately by sex because of the high level of occupational sex segregation. We used an oblique ("promax") rotation to allow interfactor correlations, since, for example, we expect

<sup>8</sup> England (1992) finds evidence of compensating differentials, but only on nonphysical (dis)amenities, and they make no contribution to the sex gap in pay.

occupations' demands for cognitive skill to be negatively correlated with their physical disamenities. For women, eight factors met the conventional share-of-variance criterion (eigenvalue  $> 1$ ). Six factors (accounting for 21% of the common variance) were substantively interpretable, and the two remaining added little explained variance. These are the six constructs that we used: cognitive skill, physical skill, nurturant social skill, exposure to hazards, exposure to hot and wet conditions, and exposure to cold. The results of the female factor analysis for the substantively interpretable factors appear in table A1.

For men, eight factors met the share-of-variance criterion; however, only five were interpretable. The results of the factor analyses for the substantively interpretable factors appear in table A2. Although the factor loadings differed somewhat between men and women, the five interpretable factors in both the female and male analyses represent the same constructs. The construction of these five scales is described below. After this we describe the construction of a scale for nurturant social skill, which we chose to measure for theoretical reasons but which, while clearly present in the female factor analysis, did not fall neatly out of the male factor analysis.

To compare male and female means of the same variables, we need scales on which a man and woman in the same occupation receive the same score. Thus, we could not use the separate factor scores with their different factor loadings for men and women. Rather, since the pattern of correlations across occupations was similar enough to produce the first five factors with similar interpretations for men and women, we used the factor analysis results as a guide to the construction of scales. Our general guideline was to compute unweighted averages of  $Z$  (normalized) scores derived from those items with positive factor loadings over .75 in either the female or the male analysis, as long as they had a nontrivial positive loading for the other sex as well. A few deviations from this rule were made to increase face validity.

The first scale measures the demands for cognitive skill in the occupation. Seven variables loaded positively in either the male or female analysis with a factor loading of at least .75. All these variables had factor loadings of .75 or above in both the male and female factor analysis except general educational development in language and intelligence, which each had loadings of .73 for women. The seven items were converted to  $Z$  scores and then combined as an unweighted average to form the scale measuring cognitive skill. The items in the scale are complexity with data, general educational development in reasoning, general educational development in language, general educational development in math, numeric aptitude, intelligence, and years of specific vocational education or on-the-job training).



The second scale measures demands for physical skill. We used seven items that had loadings of at least .75 on the relevant factor in either the male or female analysis. The items are requirements for motor coordination, finger dexterity, manual dexterity, complexity with things, form perception, spatial perception, and the need to see. All of these items loaded at least .75 for both men and women, except spatial perception, which loaded .75 in the male and .22 in the female analysis. These items were also converted to *Z* scores and combined as an unweighted average. The factor underlying this scale is very similar to the second factor identified by Cain and Treiman (1981) as "motor skills" and the second factor identified by Parcel (1989) as "physical dexterity/perceptual ability." Occupations scoring high on this factor include machinists, engravers, airplane pilots, and electrical technicians. Secretaries score moderately high on this scale by virtue of typing and other manipulations of office machines.

The third, fourth, and fifth scales tap three dimensions of working conditions. The third scale measures hazardous conditions. It consists of the five items that loaded over .75 for either men or women: exposure to hazardous conditions (.91 for women, 1.02 for men), exposure to fumes (.97 for women, .03 for men), need to stoop (.78 for women, .76 for men), need to climb (.26 for women, 1.12 for men), and a composite score of exposure to unpleasant or hazardous conditions (.75 for women, .43 for men). While male and female loadings differed more on this than the previous scales, all items were included because they have positive loadings for both sexes and high loadings for at least one sex, and clearly relate to the construct. All five items were converted into *Z* scores and combined in an unweighted average. The factor underlying this scale includes many of the same items in a factor identified by Parcel (1989), "physical activity/working conditions," and is a combination of two of the six factors identified by Cain and Treiman (1981), "physical demands" and "undesirable working conditions." Occupations scoring high on this scale include farmers, farm laborers, electricians, carpenters, commercial printers, and geologists. The fourth scale measures requirement for exposure to cold. The factor had loadings on occupational demands for exposure to cold of .88 for women and .99 for men. No other items with intuitive links to physical working conditions loaded over .75. Thus, we converted the measure of exposure to cold conditions to a *Z* score and made it a single-item scale. Jobs scoring high on this scale include geologists, baggage handlers, refrigeration repairers, meat cutters, sailors and deck hands, and railroad mechanics. The fifth factor had loadings over .75 for either men or women on only two items, exposure to wet or humid conditions and exposure to heat. Both items loaded over .90 for both men and women. We formed a "hot and wet" scale from

TABLE A1  
FACTOR LOADINGS FOR FEMALE ANALYSIS

DOT Item	Cognitive Skill	Physical Skill	Nurturant Social Skill	Hazardous Conditions	Cold Conditions	Hot and Wet Conditions
Complexity with data .....	.7992	-.1793	.1045	-.1436	.1120	.0067
Complexity with people .....	.3426	-.5043	.4346	-.0866	-.0127	-.0160
Complexity with things .....	.0968	.8709	-.2401	.0544	.0616	-.0040
General educational requirement for reasoning .....	.8806	-.0910	.2078	.0420	.0140	-.0111
General educational requirement for math .....	1.0478	-.0127	-.0915	.1067	-.0361	-.0037
General educational requirement for use of language .....	.7343	-.0774	.3598	-.0019	-.0347	-.0346
Years of vocational or on-the-job training required .....	.8256	-.1784	.0596	-.0069	.0199	.0605
Requirement for intelligence.....	.7261	.2157	.1505	.1684	-.0438	-.0012
Requirement for verbal aptitude .....	.4933	.1323	.4552	.2352	-.0451	.0101
Requirement for numerical aptitude.....	.9906	.0352	-.3532	-.0065	.0026	-.0564
Requirement for spatial aptitude .....	.3398	.2248	.1384	-.0844	.1635	.0116
Requirement for form perception .....	.2118	.8010	.4211	-.1408	-.0054	-.0842
Requirement for clerical perception .....	.5472	.1807	-.0495	-.0781	-.0421	.0363
Requirement for motor coordination .....	-.1704	.8877	.2900	-.0781	-.0046	-.0447
Requirement for finger dexterity .....	-.0734	.9381	.2042	-.0728	.0371	-.0522
Requirement for manual dexterity .....	-.3702	.7912	.0741	.0942	.1184	.0263
Requirement for eye-hand-foot coordination .....	-.1122	-.1467	.2907	.2785	-.1179	-.0995
Requirement for direction, control, and planning .....	.5957	-.5508	-.0772	-.0011	.0283	.0305

Preference for communication over things .....	.1350	-.0320	.8012	-.0341	-.0230	-.0295
Use of feelings, ideas, or facts .....	.1081	-.0061	-.0242	.0272	.8583	.1339
Influencing .....	.1962	-.5565	.1331	.1246	.1802	-.0384
Use of sensory or judgmental criteria .....	.2102	.0706	.6469	-.0532	.0715	.1144
Use of measurable or verifiable criteria .....	.5960	.0933	-.3420	-.0267	-.1459	-.0070
Dealing with people .....	-.0529	-.1336	.9425	.0299	-.0654	-.0628
Need to set limits, tolerances, or standards .....	.2436	.7736	-.4077	-.1436	-.1326	.0001
Need to climb or balance .....	-.0399	-.0869	-.1985	.2600	-.0582	-.2052
Need to stoop, kneel, crouch, or crawl .....	-.1784	-.1212	-.0383	.7766	.0643	-.2206
Need to reach, handle, finger, or feel .....	-.4877	.7105	-.0999	.0400	.0464	-.0100
Need to talk and hear .....	.0196	-.1163	.8882	.0304	-.0610	-.0680
Need to see well .....	.1842	.8885	-.1852	.2167	.0368	-.0339
Need to adapt to variety of tasks .....	.2239	.2794	.4332	.5743	.1141	-.0516
Need to do routine tasks .....	-.4909	-.1147	-.5397	.0439	-.0805	-.0812
Need to perform under stress .....	.1554	.1593	.2047	.5568	-.0170	-.0608
Need for physical strength .....	-.1851	-.1965	.0129	.3712	.0168	.0255
Repetitious, continuous work .....	-.7729	-.0404	-.2152	-.4271	-.0505	.1388
Exposed to cold temperatures .....	-.0351	.0545	-.1187	-.0844	.8787	-.0084
Exposed to hot temperatures .....	-.0181	-.0349	-.0318	.0781	-.1017	.9192
Exposed to wet conditions .....	-.0929	-.0454	-.0603	.0675	.1075	.9827
Exposed to noise .....	-.2619	.1088	.2138	-.1484	-.1436	-.0401
Exposed to hazards .....	.1157	.0314	.0018	.9101	-.0159	.2810
Exposed to fumes .....	.0980	.0587	.0340	.9699	.0437	-.0966
Total exposure to unpleasant environmental conditions ...	-.0130	.0566	-.0773	.7547	.0150	.4246

TABLE A2  
FACTOR LOADINGS FOR MALE ANALYSIS

DOT Item	Cognitive Skill	Physical Skill	Hazardous Conditions	Cold Conditions	Hot and Wet Conditions
Complexity with data.....	.9519	.0578	-.0956	-.0425	.0227
Complexity with people.....	.4930	-.3056	-.0849	-.0480	.0173
Complexity with things.....	.0335	.8481	.1697	-.0528	-.0628
General educational requirement for reasoning.....	.9657	.1597	.0311	-.0335	.0603
General educational requirement for math.....	1.0088	.1212	.0218	-.0234	.0442
General educational requirement for use of language....	.8895	.0301	.0237	-.0409	.0413
Years of vocational or on-the-job training required.....	.9950	.0086	.0171	.0039	.0841
Requirement for intelligence.....	.8809	-.0068	.1106	.0823	-.0043
Requirement for verbal aptitude.....	.7185	-.0836	-.2002	-.0333	.0410
Requirement for numerical aptitude.....	.8984	.1976	.1300	-.0451	.0053
Requirement for spatial aptitude.....	.4358	.7488	-.0750	-.0028	.0116
Requirement for form perception.....	.4019	.9077	-.2155	-.0310	-.0842
Requirement for clerical perception.....	.5309	-.0622	-.0798	.0070	.0363
Requirement for motor coordination.....	-.1556	1.0715	.0713	-.0379	-.0447
Requirement for finger dexterity.....	.0989	1.1037	-.1741	-.0049	-.0522
Requirement for manual dexterity.....	-.2592	.8680	-.2837	.0473	.0263
Requirement for eye-hand-foot coordination.....	-.1047	.0438	.7406	-.1506	-.0995
Requirement for direction, control, and planning.....	.7436	-.6007	-.0330	.0278	.0305

Preference for communication over things.....	.2570	-.2498	-.0499	-.0366	-.0850
Use of feelings, ideas, or facts.....	.1114	.1945	-.0125	.0326	.1339
Influencing.....	.1024	-.2214	.1945	-.0311	-.0687
Use of sensory or judgmental criteria.....	.1107	-.0383	.1407	.2239	-.0308
Use of measurable or verifiable criteria.....	.5937	.4516	.1531	.1120	-.0735
Dealing with people.....	.1373	-.4113	-.1761	.1202	-.1445
Need to set limits, tolerances, or standards.....	.1175	.7178	-.0956	-.0518	.0363
Need to climb or balance.....	.2017	-.1728	1.1150	-.0809	-.0518
Need to stoop, kneel, crouch, or crawl.....	-.1569	-.0536	.7557	.1007	-.1721
Need to reach, handle, finger, or feel.....	-.5462	.6542	-.0111	-.0262	-.0093
Need to talk and hear.....	.2916	-.2655	-.3923	-.0349	-.0258
Need to see well.....	.0367	.8488	.1415	.0273	.0052
Need to adapt to variety of tasks.....	.4125	-.0155	.0243	-.0850	-.1713
Need to do routine tasks.....	-.8888	-.2498	-.1183	-.0805	-.0798
Need to perform under stress.....	-.1226	.1847	.1695	-.0098	.1635
Need for physical strength.....	-.3953	.0216	.4089	.0175	.0125
Repetitious, continuous work.....	-.8420	-.1169	-.1681	-.0518	.1361
Exposed to cold temperatures.....	-.0734	.0026	.0750	.9882	-.0999
Exposed to hot temperatures.....	.1351	-.0518	.0115	-.0577	1.0367
Exposed to wet conditions.....	.0077	-.1089	-.0702	-.0488	.9408
Exposed to noise.....	-.1336	.2099	.0096	.0924	.0697
Exposed to hazards.....	-.1540	-.0193	1.0204	.1218	.0763
Exposed to fumes.....	-.0740	-.1085	.0337	.0949	.0610
Total exposure to unpleasant environment.....	.0208	.0208	.4279	.1040	.3505

an unweighted average of the *Z* scores for these two items. Occupations with high scores on this scale include kitchen workers, laundry workers, metal rollers, welders, and foresters. The heat item was one of three items with high loadings on Cain and Treiman's (1981) factor called "undesirable working conditions." Likewise, the heat and wet items were two of three items with high loadings on Parcel's factor called "undesirable working conditions."

A factor tapping occupational demands for nurturant social skill appeared only in the female analysis. The absence of this factor from the male analysis is a result of differing patterns of interitem correlation by gender. In the male factor analysis, social skill tends to be more closely correlated with cognitive skill and to involve the exercise of power, presumably because of the preponderance of men in managerial and other supervisory jobs. Thus, occupational demands for authoritative social skill are loading on the factor representing cognitive skill for men. Although such a scale does not fall neatly out of the male factor analysis, we have theoretical reasons to desire a measure of nurturant social skill, since our cultural feminist theory of gendered valuation predicts its devaluation. Thus, we created a scale utilizing those *DOT* items with loadings greater than .85 on the "social" factor in the female analysis. The two items are adaptability to dealing with people and demands for talking and hearing. To further increase the face validity of this measure, we added to the scale a normalized version of a dummy variable coded "1" if both of these criteria were met: the occupation requires providing a service while engaged in face-to-face contact with clients or customers, and this providing of service occurs during a substantial portion of work time. The coding of the dummy variable was done by the second author. Codings by an independent judge produced interrater reliability of .7; codings of the second author were used. Occupations coded as "nurturant" on the dummy variable were chiropractors, clergy, dentists, librarians, nurses, optometrists, osteopaths, physicians, and surgeons, recreation and group workers, religious workers, social and welfare workers, teachers, therapists and healers not elsewhere classified, library attendants and assistants, attendants in physicians' and dentists' offices, baggagemen in transportation, cashiers, receptionists, ticket agents, salesmen and sales clerks not elsewhere classified, auto service and parking attendants, taxicab drivers and chauffeurs, baby-sitters, attendants (in hospitals, professional and personal service not elsewhere classified, and recreation and amusement), hairdressers and cosmetologists, midwives, porters, practical nurses, and waiters and waitresses. Thus, the final scale measuring nurturant social skill was an unweighted average of *Z* scores from this dummy variable and the two *DOT* items mentioned above. Occupations with high scores on this scale include recreation lead-

ers, nurses, clergy, elementary school teachers, barbers, baby-sitters, social workers, and hospital attendants. All these occupations require intense interaction with clients, students, or patients. Many occupations scoring high require one to empathize with others so as to discern their needs while managing one's own emotions. This may require what Hochschild (1983) called "emotion work"—pretending friendliness and concern one does not genuinely feel.

## REFERENCES

- Alcoff, Linda. 1988. "Cultural Feminism versus Post-structuralism: The Identity Crisis in Feminist Theory." *Signs* 13:405–36.
- Aldrich, Mark, and Robert Buchele. 1986. *The Economics of Comparable Worth*. Boston: Ballinger.
- Arrow, Kenneth. 1972. "Models of Job Discrimination." Pp. 83–102 in *Racial Discrimination in Economic Life*, edited by A. Pascal. Lexington, Mass.: Lexington, Heath.
- Baron, James N., and Andrew E. Newman. 1989. "Pay the Man: Effects of Demographic Composition on Wage Rates in the California Civil Service." Pp. 107–30 in *Pay Equity: Empirical Inquiries*, edited by H. I. Hartmann and R. Michael. Washington, D.C.: National Academy.
- Barry, J. 1985. "Women Production Workers: Low Pay and Hazardous Work." *American Economic Review* 75:262–65.
- Beck, E. M., Patrick H. Horan, and Charles M. Tolbert II. 1980. "Industrial Segmentation and Labor Market Discrimination." *Social Problems* 28:113–30.
- Becker, Gary S. 1971. *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education*, 2d ed. New York: Columbia University Press.
- Bergmann, Barbara. 1986. *The Economic Emergence of Women*. New York: Basic.
- Berk, Richard. 1983. "An Introduction to Sample Selection Bias in Sociological Data." *American Sociological Review* 48:386–98.
- Brown, Charles. 1980. "Equalizing Differences in the Labor Market." *Quarterly Journal of Economics* 94:113–34.
- Cain, Pamela S., and Donald J. Treiman. 1981. "The DOT as a Source of Occupational Data." *American Sociological Review* 46:253–78.
- Center for Human Resource Research, Ohio State University. 1983. *National Longitudinal Surveys Handbook*. Columbus, Ohio: Center for Human Resource Research.
- Corcoran, Mary E. 1979. "Work Experience, Labor Force Withdrawals, and Women's Wages: Empirical Results Using the 1976 Panel Study of Income Dynamics." Pp. 216–45 in *Women in the Labor Market*, edited by Cynthia B. Lloyd, Emily S. Andrews, and Curtis L. Gilroy. New York: Columbia University Press.
- Corcoran, Mary, and Greg J. Duncan. 1979. "Work History, Labor Force Attachments, and Earnings Differences between the Races and Sexes." *Journal of Human Resources* 14:3–20.
- Coverdill, James E. 1988. "The Dual Economy and Sex Differences in Earnings." *Social Forces* 66 (4): 970–93.
- Duncan, Greg J., and Bertil Holmlund. 1983. "Was Adam Smith Right After All? Another Test of the Theory of Compensating Wage Differentials." *Journal of Labor Economics* 1:366–79.
- Echols, Alice. 1983. "The New Feminism of Yin and Yang." Pp. 439–59 in *Powers of Desire: The Politics of Sexuality*, edited by Ann Snitow, Christine Stansell, and Sharon Thompson. New York: Monthly Review.

- England, Paula. 1992. *Comparable Worth: Theories and Evidence*. Hawthorne, N.Y.: Aldine de Gruyter.
- England, Paula, Marilyn Chassie, and Linda McCormick. 1982. "Skill Demands and Earnings in Female and Male Occupations." *Sociology and Social Research* 66:147-68.
- England, Paula, George Farkas, Barbara Stanek Kilbourne, and Thomas Dou. 1988. "Explaining Occupational Sex Segregation and Wages: Findings from a Model with Fixed Effects." *American Sociological Review* 53:544-58.
- England, Paula, Melissa S. Herbert, Barbara Stanek Kilbourne, Lori L. Reid, and Lori McCreary Megdal. 1994. "The Gendered Valuation of Occupations and Skills: Earnings in 1980 Census Occupations." *Social Forces*, in press.
- England, Paula, and Steven McLaughlin. 1979. "Sex Segregation of Jobs and Male-Female Income Differentials." Pp. 189-213 in *Discrimination in Organizations*, edited by R. Alvarez, K. Lutterman, and associates. San Francisco: Jossey-Bass.
- Filer, Randall K. 1985. "Male-Female Wage Differences: The Importance of Compensating Differentials." *Industrial and Labor Relations Review* 38 (3): 426-37.
- . 1989. "Occupational Segregation, Compensating Differentials and Comparable Worth." Pp. 153-70 in *Pay Equity: Empirical Inquiries*, edited by Robert T. Michael, Heidi I. Hartmann, and Brigid O'Farrell. Washington, D.C.: National Academy.
- Gilligan, Carol. 1982. *In a Different Voice: Psychological Theory and Women's Development*. Cambridge, Mass.: Harvard University Press.
- Halvorsen, Robert, and Raymond Palmquist. 1980. "The Interpretation of Dummy Variables in Semilogarithmic Equations." *American Economic Review* 70:474-75.
- Heckman, James J. 1979. "Sample Selection Bias as a Specification Error." *Econometrica* 47:153-61.
- Hochschild, Arlie. 1983. *The Managed Heart*. Berkeley and Los Angeles: University of California Press.
- Hodson, Randy, and Paula England. 1986. "Industrial Structure and Sex Differences in Earnings." *Industrial Relations* 25:16-32.
- Jacobs, Jerry A., and Ronnie J. Steinberg. 1990a. "Compensating Differentials and the Male-Female Wage Gap: Evidence from the New York State Comparable Worth Study." *Social Forces* 69 (2): 439-68.
- . 1990b. "Compensating Differentials and the Male-Female Wage Gap: A Reply." *Social Forces* 69 (2): 475-78.
- Jones, F. L., and Jonathan Kelley. 1984. "Decomposing Differences between Groups: A Cautionary Note on Measuring Discrimination." *Sociological Methods and Research* 12:323-43.
- Judge, George, R. C. Hill, W. E. Griffith, H. Lutkepohl, and T. Lee. 1982. *An Introduction to the Theory and Practice of Econometrics*. New York: Wiley.
- Keller, Catherine. 1986. *From a Broken Web: Separation, Sexism, and Self*. Boston: Beacon.
- Keller, Evelyn Fox. 1985. *Reflections on Gender and Science*. New Haven, Conn.: Yale University Press.
- Killingsworth, Mark. 1985. "The Economics of Comparable Worth: Analytical, Empirical, and Policy Questions." Pp. 86-115 in *Comparable Worth: New Directions for Research*, edited by Heidi Hartmann. Washington, D.C.: National Academy.
- Kittay, Eva Feder, and Diane T. Meyers. 1987. *Women and Moral Theory*. Totowa, N.J.: Rowan & Littlefield.
- Kohn, Melvin L., and Carmi Schooler. 1969. "Class, Occupation and Orientation." *American Sociological Review* 34:659-78.
- Lang, Kevin, and William Dickens. 1988. "Neoclassical Perspectives on Segmented



- Labor Markets." Pp. 65–88 in *Industries, Firms and Jobs: Sociological and Economic Approaches*, edited by George Farkas and Paula England. New York: Plenum.
- Mincer, Jacob. 1974. *Schooling, Experience and Earnings*. New York: National Bureau of Economic Research.
- Parcel, Toby. 1989. "Comparable Worth, Occupational Labor Markets and Occupational Earnings: Results from the 1980 Census." Pp. 134–52 in *Pay Equity: Empirical Inquiries*, edited by Robert T. Michael, Heidi I. Hartmann, and Brigid O'Farrell. Washington, D.C.: National Academy.
- Parcel, Toby, and Charles W. Mueller. 1989. "Temporal Change in Occupational Earnings Attainment, 1970–1980." *American Sociological Review* 54:622–34.
- Parsons, Talcott. 1954. *Essays in Sociological Theory*. New York: Free Press.
- Rosen, Sherwin. 1986. "The Theory of Equalizing Differences." Pp. 641–92 in *Handbook of Labor Economics*, vol. 1. Edited by O. Ashenfelter and R. Layard. New York: Elsevier.
- Schott, Robin May. 1988. *Cognition and Eros: A Critique of the Kantian Paradigm*. Boston: Beacon.
- Shepela, S. T., and A. T. Viviano. 1984. "Some Psychological Factors Affecting Job Segregation and Wages." Pp. 47–58 in *Comparable Worth and Wage Discrimination*, edited by Helen Remick. Philadelphia: Temple University Press.
- Smith, Robert S. 1979. "Compensating Wage Differentials and Public Policy: A Review." *Industrial Labor Relations Review* 32 (3): 339–52.
- Sorensen, Elaine. 1989a. "Measuring the Effect of Occupational Sex and Race Composition on Earnings." Pp. 49–69 in *Pay Equity: Empirical Inquiries*, edited by Robert T. Michael, Heidi I. Hartmann, and Brigid O'Farrell. Washington, D.C.: National Academy.
- . 1989b. "Measuring the Pay Disparity between Typical Female Occupations and Other Jobs: A Bivariate Selectivity Approach." *Industrial Labor Relations Review* 42:624–39.
- . 1989c. "The Wage Effects of Occupational Sex Composition: A Review and New Findings." Pp. 57–79 in *Comparable Worth: Analyses and Evidence*, edited by M. Anne Hill and Mark Killingsworth. Ithaca, N.Y.: ILR Press.
- Steinberg, Ronnie J. 1990. "Social Construction of Skill: Gender, Power, and Comparable Worth." *Work and Occupations* 17:449–82.
- Steinberg, Ronnie J., and Lois Haignere. 1987. "Equitable Compensation: Methodological Criteria for Comparable Worth." Pp. 157–82 in *Ingredients for Women's Employment Policy*, edited by C. Bose and G. Spitze. Albany: State University of New York Press.
- Steinberg, Ronnie J., Lois Haignere, C. Possin, C. H. Chertos, and K. Treiman. 1986. *The New York State Pay Equity Study: A Research Report*. Albany: State University of New York, Center for Women in Government.
- U.S. Department of Labor. 1977. *Dictionary of Occupational Titles*, 4th ed. Washington, D.C.: Government Printing Office.

# On the Historical Efficiency of Competition between Organizational Populations<sup>1</sup>

Glenn R. Carroll

*University of California, Berkeley*

J. Richard Harrison

*University of Texas at Dallas*

Much organizational theory and research uses an equilibrium assumption known as historical efficiency. This assumption implies that observed distributions of organizations at any point in time reflect the unique outcomes of underlying systematic processes, independent of historical details. In an attempt to assess the plausibility of this assumption in the context of organizational evolution, the authors use a well-established model to simulate trajectories of competing organizational populations. The findings show that path-dependent processes can often generate outcomes other than those implied by historical efficiency. Implications for theory and research are discussed.

Throughout its history, theory and research on organizations has often subscribed to an assumption of temporal equilibrium. That is, researchers have frequently assumed (often implicitly) that organizational arrangements observed at a particular point in time represent the unique outcome of some systematic process such as competition. March and Olsen (1989, pp. 5–6) refer to this as the assumption of “historical efficiency.” They explain: “Institutions and behavior are thought to evolve through some form of efficient historical process. An efficient historical process, in these terms, is one that moves rapidly to a unique solution,

<sup>1</sup> The research reported here was supported in part by assistance from the Institute of Industrial Relations, University of California, Berkeley. We gratefully acknowledge the research assistance of Lucia Tsai and Paul McIntosh and the clerical assistance of Amrei Kieschke. Helpful comments on earlier drafts were provided by William Barnett, Michael Hannan, Dan Levinthal, David Loree, James March, Marc-David Seidel, Suzanne Stout, Albert Teo, Lucia Tsai, Oliver Williamson, and *AJS* reviewers. We also benefited from discussion at the American Sociological Association's annual meeting in Pittsburgh, where the findings of this paper were presented. Address correspondence to Glenn R. Carroll, Haas School of Business, 350 Barrows Hall, University of California, Berkeley, California 94720.

conditional on current environmental conditions, and is independent of the historical path. This equilibrium may involve a stochastically subtle distribution or a fixed point, but we require a solution that is achieved relatively rapidly and is independent of the details of historical events leading to it." Examples of studies using this assumption can be found in virtually all theoretical camps, but some perspectives seem more reliant on it (e.g., rational action theory; see Milgrom and Roberts 1992).

Recent developments in the study of technology, institutions, and related topics have sensitized social scientists to the potential problems of assuming historical efficiency. Theoretical analyses in these areas have shown that social processes with positive feedback (or self-reinforcement) can generate outcomes that arise from "chance" rather than a systematic force. Contexts where these outcomes occur are "path dependent" in the sense that prior decisions, choices, or actions affect the future behavior of the process.

Path dependence has received much attention from social scientists and historians (Arthur 1987; David 1985; Williamson 1993). Yet the concept remains mainly a fascinating idea. Much work continues to rely on the assumption of historical efficiency. Other work avoids this problem but still fails to develop fully the implication of path dependence for its conclusions. Such practice seems ill-advised for the study of organizations, because organizations frequently exhibit the types of positive feedback mechanisms that can give rise to path dependence—for example, learning-by-doing, economies of scale, and information-increasing returns.

Our efforts here represent an attempt to take the study of organizational path dependence one step further. We do so by tightening the focus on this phenomenon. We use an established general model of organizational evolution—organizational ecology's density model of legitimation and competition (Hannan and Carroll 1992)—to examine the likelihood of path-dependent outcomes. We build on empirical estimates of the model to simulate long-term trajectories of competing organizational populations defined by organizational form, a process that theorists often assume to be historically efficient. We arrange the simulations so that some populations are "structurally superior" to others, meaning that parameters lead one to expect that certain populations should outcompete others. Although in common parlance competitive victory may imply several dimensions of dominance, we use the simulation experiments to address three specific but central questions: First, how often does the structurally superior population dominate in numbers of organizations? Second, how long does it typically take for the "winning" population to dominate? Third, how much variability is there in the time required for the winning population to dominate?

The findings show clearly that path dependence can produce unexpected outcomes in this structured and realistic framework. Furthermore, the pattern of outcomes generated yields insights into the density model and related substantive issues of wide concern. By our assessment, the findings have important implications for theory and research on organizations.

#### EVOLUTION AMONG COMPETING ORGANIZATIONAL POPULATIONS

Virtually all theories of organization hold that some forms of organization have competitive advantages over other forms, although the particulars of the forms and the forces giving them advantage differ considerably by theory. In classical formulations (e.g., Weber 1968), formalized structures per se are held to be inherently more efficient than informal structures. Contemporary theories focus primarily on differences among formal organizations. In resource dependence theory (Pfeffer and Salancik 1978), organizations with structures capable of reducing environmental uncertainty are depicted as having operating advantages. In transaction cost theory (Williamson 1981, 1993), organizational structures that minimize costs are predicted to outperform others. In institutional theory (Meyer and Scott 1983), organizations that are structured in a manner consistent with prevailing norms are thought to be favored by authorities, customers, and employees. And in ecological theory (Hannan and Freeman 1989), organizational forms that are better matched to their environmental conditions are seen as capable of outcompeting other forms. For present purposes, it is important to recognize that each of these theories posits an underlying driving force that gives relative advantage to particular organizational forms and that leads to a substantive prediction of equilibrium whereby the advantaged forms should prevail (often referred to in the sociological literature as isomorphism; see Scott 1992).

Researchers often assume that the existence or relative abundance of particular organizational forms represents the outcome of some process yielding competitive advantage to those forms. This practice invokes the assumption of historical efficiency, wittingly or not, whether the underlying process is hypothesized to be market-driven efficiency, uncertainty reduction, cost minimization, normative consensus, or whatever.

Historical efficiency is a plausible assumption in this context, but it is not self-evident. The crucial questions concern the strength of the underlying forces yielding competitive advantage and the extent to which other factors, including random ones, impinge upon the organizations. Obviously, in settings where a strong driving force operates and there is little "noise," the system will adjust rapidly. Here the assumption of historical

efficiency is not only sustainable but practical. However, in settings where the underlying force is not as strong or where there is a significant amount of noise, assuming historical efficiency becomes potentially problematic. The system may not have had sufficient time to adjust or its outcomes may be obscured or even influenced by noise.

For organizations, there are also important substantive considerations in using the assumption of historical efficiency to infer competitive advantage. Organizational environments may be endogenous or nonstationary. Many organizational processes show signs of positive feedback or self-reinforcement (e.g., learning-by-doing and scale economies in production). Such processes create the conditions for path dependence among competing forms of organization. Path dependence deserves attention because it can lead to unexpected outcomes, such as the long-term survival of and dominance by an initially inferior competing form of organization. Analyses by Arthur (1989) and others have shown that systems with positive feedback can generate outcomes strongly affected by random events or noise even in the presence of strong systematic forces such as market selection.

How common are positive feedback mechanisms among organizational forms? We have hinted at their prevalence by referring to widely used concepts such as learning-by-doing and economies of scale. Organizational ecology's model of density-dependent legitimation and competition (Hannan and Carroll 1992) provides a compelling case for widespread prevalence of positive feedback in the evolution of organizational forms. As we illustrate below, the legitimation component of this model involves positive feedback. The model's empirical standing, which includes supporting evidence from a wide variety of organizational forms, suggests broad applicability. For this reason, we use this model as a framework for assessing the plausibility of the assumption of historical efficiency in organizational evolution. In particular, we build on empirical estimates of this established model to simulate long-term trajectories of organizational populations defined by form. For clarity of interpretation, we focus initially on cases of two competing organizational populations defined by form. We then extend our investigation to a multipopulation problem. We are especially interested in learning how frequently outcomes other than those implied by the systematic processes of legitimation and competition might result in evolutionary contexts. The strength of this approach lies in our ability to assess outcomes based on a widely applicable model using parameter values similar to those estimated for real-world populations. The primary limitation of the approach is that it allows us to look only at one class of competitive outcomes—numbers of organizations with particular forms and the trajectories of these populations over time.

# A MODEL OF LONG-TERM ORGANIZATIONAL EVOLUTION

How do organizational forms and populations defined by forms evolve over time? Although answers to this question are far from complete, recent research has established the validity of an ecological model of one aspect of the evolutionary process, that concerning change over time in the number of organizations using a particular form. The model is known in the literature as the density model (Hannan and Carroll 1992). It envisions organizational change as a selection process, meaning that changes in the number of organizations with a particular form occur through fluctuations in founding and failure rates rather than through transformations of existing organizations having other forms.

The density model holds that two general sociological forces drive long-term organizational evolution: legitimation (in the sense of social taken-for-grantedness) and competition. Legitimation of an organizational form increases with rises in the number of organizations using the form (density) at a decreasing rate. Competition also increases with rising density but at an increasing rate. So when density is low, legitimation dominates evolution; when it is high, competition does (see Hannan and Carroll [1992] for an in-depth exposition).

Three essential features define the density model empirically. First, organizational founding rates rise and then fall with increases in density. The pattern corresponds to the relative importance of legitimation and competition at different phases of evolution. Second, organizational mortality rates decline and then rise with increases in density, again in correspondence to the relative influences of legitimation and competition. Third, the greater the population density at the time of an organization's founding, the higher its lifetime mortality rate (across all ages). This last feature is purely a competition effect. Note that, in the first two empirical features, both the rise in founding rates and the decline in mortality rates yield positive feedback—the population grows as a function of its density, at least temporarily.

Although many functional forms could be used to depict the model mathematically, a simple and widely used specification casts stochastic rates of organizational founding and mortality as log-linear quadratic functions of density. For organizational founding, the rate,  $\lambda$ , is specified as

$$\lambda(t) = \exp[\beta_0 + \beta_1 N(t) + \beta_2 N^2(t)], \quad (1.1)$$

where  $N(t)$  is density at time  $t$  and the model predicts that

$$\beta_1 > 0; \beta_2 < 0. \quad (1.2)$$

For organizational mortality, the rate,  $\mu$ , is defined at the organizational level as

$$\mu(u) = \exp[\alpha_0 + \alpha_1 N(u) + \alpha_2 N^2(u) + \alpha_3 N_f] \exp[\gamma_0 \log(u)], \quad (2.1)$$

where  $\gamma_0$  is the coefficient associated with age dependence,  $N(u)$  is density at age  $u$ , and  $N_f$  is density at the time of an organization's founding. The model predictions are

$$\alpha_1 < 0; \alpha_2 > 0; \alpha_3 > 0. \quad (2.2)$$

The density model rests on strong empirical support.<sup>2</sup> The predicted relationships have been found in virtually all empirical studies conducted to date with appropriate observation periods. The published tests cover a wide range of organizational populations including beer brewing firms, labor unions, banks, life insurance companies, newspaper publishers, trade associations, medical diagnostic imaging manufacturers, and telephone companies (for a review, see Hannan and Carroll [1992]). Furthermore, simulations of estimated equations by Hannan and Carroll (1992) demonstrate that the model does a reasonably good job of reproducing observed time trajectories of the number of organizations in a population.<sup>3</sup>

The problem of historical efficiency concerns the evolution of not one organizational population but of two or more populations in competition with each other. The density framework incorporates such interdependence by allowing the vital rates of one population to depend not only on its own density but also on the densities of other populations.<sup>4</sup> In this way, the size of any particular population is affected by the presence and sizes of other populations.

<sup>2</sup> Debate about the density model has mainly concerned theoretical interpretation, especially that involving legitimation (see Petersen and Koput 1991). These issues need not concern us greatly here because we justify our use of the model on its empirical standing. To our knowledge, no one has questioned the empirical evidence of positive feedback effects, whatever their interpretation.

<sup>3</sup> Barnett (1993) has proposed a new model of organizational evolution based on aggregated competitive forces. His model complements rather than contradicts the density model. Although combining Barnett's model with the density model apparently improves predictive power, this fact does not undermine the density model's individual predictive ability.

<sup>4</sup> One reviewer has suggested that the superiority or inferiority of organizational forms should be reflected in their base rates of founding and mortality rather than their interdependence with other organizational forms. Although base vital rates may indicate a form's inherent viability or fitness, they do not indicate its competitive ability vis-à-vis another specific organizational form. Competitive ability is our focus here. In order to minimize the potentially confounding effects of inherent viability, we hold base rates constant in our simulations.

Imagine the case of two interdependent populations *A* and *B*. With simple monotonic interpopulation relationships (similar to the competition terms in the well-known Lotka-Volterra model), the vital rates can be specified by adding interpopulation competition terms to equations (1.1) and (2.1) to model the effect of the density of one population on the vital rates of the other. Adding these terms leads to the following specifications:

$$\lambda_A(t) = \exp[\beta_{A0} + \beta_{A1}N_A(t) + \beta_{A2}N_A^2(t) + \delta_A N_B(t)], \quad (3.1)$$

for founding of population *A*, and

$$\lambda_B(t) = \exp[\beta_{B0} + \beta_{B1}N_B(t) + \beta_{B2}N_B^2(t) + \delta_B N_A(t)], \quad (3.2)$$

for founding of *B*;

$$\begin{aligned} \mu_A(u) = \exp[\alpha_{A0} + \alpha_{A1}N_A(u) + \alpha_{A2}N_A^2(u) \\ + \alpha_{A3}N_{Af} + \eta_A N_B(u)]\exp[\gamma_A \log(u)], \end{aligned} \quad (4.1)$$

for mortality of organizations of form *A*, and

$$\begin{aligned} \mu_B(u) = \exp[\alpha_{B0} + \alpha_{B1}N_B(u) + \alpha_{B2}N_B^2(u) \\ + \alpha_{B3}N_{Bf} + \eta_B N_A(u)]\exp[\gamma_B \log(u)], \end{aligned} \quad (4.2)$$

for mortality of organizations in population *B*. For foundings, a positive  $\delta$  parameter signifies mutualistic interdependence between the two populations; a negative  $\delta$  indicates competition. For mortality, the interpretations are reversed: a positive  $\eta$  parameter shows a competitive relationship, while a negative  $\eta$  denotes mutualism (see Hannan and Carroll 1992). The framework parallels models used in biology for multispecies interactions (see May 1974). What's more, it has proven useful in empirical studies of competing organizational subpopulations (see, e.g., Barnett and Carroll 1987; Hannan and Freeman 1989; Hannan and Carroll 1992).

In a historically efficient world, the direction and strength of competitive relationships determine the winner of the competition. What of the density model? Those familiar with Lotka-Volterra and related models of competition may recognize that models similar to that specified above have been induced to derive equilibrium solutions of population sizes (see May 1974). The solutions consist of various combinations of population parameters. However, this work has limited applicability to the model of density dependence for at least two reasons. First, the solutions derive from deterministic versions of the model, not the stochastic version specified above. The deterministic versions remove random variation by assumption. Second, the models used in these exercises are less complex than the ecological model of density dependence. The biggest difference



is that the ecological model contains nonmonotonic density dependence while the typical model dealt with analytically contains only monotonic density dependence.

In terms of analytical work, a more insightful analogy is between the ecological model of density dependence and nonlinear Polya processes (Cohen 1976).<sup>5</sup> Arthur, Ermoliev, and Kaniovski (1987, p. 294) define nonlinear Polya processes as those characterizing "systems where increments to proportions or concentrations occur with probabilities that are non-linear functions of present proportions or concentrations," a general definition that applies to the model of density dependence. The interesting features of these processes can be readily seen in the simplest case, the standard Polya urn scheme (Eggenberger and Polya 1923; Cohen 1976; Arthur et al. 1987). Suppose we have an urn of unlimited capacity and it contains two balls, one blue and one gold. We draw randomly from the urn, look at the color of the ball drawn, and then return it. If a blue ball was drawn, we add a blue ball to the urn (so that the urn now contains two blue balls and one gold ball). If a gold ball was drawn, we add a gold ball to the urn. We continue this process indefinitely and observe the proportion of balls of each color, which also constitutes the probability that a ball of any given color will be chosen next. Some may expect that the proportions will endlessly shift back and forth; others may expect that the urn will eventually contain a preponderance of balls of one color. Neither of these expectations is correct. With a probability of one, the proportions of balls in the urn tend to a limit  $Z$  and that  $Z$  is a random variable uniformly distributed between 0 and 1. This means that, if we conduct the experiment numerous times, in each instance the proportions of balls will converge on a single set of proportions (say, .5213 blue and .4787 gold) but that across experiments the proportions will differ (say, .3825 blue and .6175 gold in the second experiment, .1253 blue and .8747 gold in the third experiment, etc.). Polya processes are path dependent because the probabilities of balls of either color being chosen depend on the sequence of previous draws; they are self-reinforcing because initially the more times a color is chosen, the more likely it will be chosen again; they are stable because an exact equilibrium point emerges; and they are indeterminate or nondegenerate because the equilibrium point varies randomly from trial to trial.

<sup>5</sup> Purely random processes can generate path-dependent trajectories for competitors; advantages obtained by chance can be surprisingly durable (Feller 1968). This effect helps us understand how the stochastic components of our model contribute to the path dependence we observe, but the probability that this behavior is the result of chance alone is vanishingly small for the extended time frame of our study. The regression analysis shows that population density is also a significant contributor to this effect.

Although the model of density dependence for competing populations has a structure that contains essential features of the nonlinear Polya process, it also has other aspects including negative feedback (driven by the second-order population coefficient), possible declines in population sizes, and possible simultaneity of population increments (or decrements). Accordingly, we are reluctant to rely on general analytical results from nonlinear Polya processes, and we have not been successful in deriving analytical solutions for the models of interest (indeed, we doubt that it is even possible to obtain such solutions). We also want to ensure that the model's behavior within the usual range of empirically estimated coefficients produces variations of magnitude sufficient to be substantively important. For all these reasons, we use a computer simulation to study and understand the model of density dependence for competing populations.

#### EXPERIMENTAL RESEARCH DESIGN

The assumption of historical efficiency implies that when two organizational populations stand in competition with each other, the "stronger" of the two will dominate in a fairly short period of time. For the assumption to be applicable to most real-world contexts, this outcome should occur regardless of when each population enters the competitive arena and regardless of the size of the other population at time of entry. By contrast, the path-dependent properties of models with positive feedback suggest that if populations follow trajectories implied by the density model, then other outcomes are possible. Our simulation experiments are designed to address this basic problem.

Initial simulation work on the density model by Hannan and Carroll (1992, chap. 8) studied the evolutionary paths of single populations. Using parameter estimates of data on real organizational populations, Hannan and Carroll made several general conclusions about the model's behavior for single organizational populations. First, they concluded that the model reproduced observed historical trajectories reasonably well once appropriate values of environmental and other covariates were used to make predictions. Second, they found that the model showed great variation in the timing of periods of rapid population growth or "take-off," even though the population almost always equilibrated at the expected level. The variation in timing was thought to be due to randomness or chance. Third, the strength of the density delay term ( $\alpha_{A3}$  and  $\alpha_{B3}$  in the models above) was found to affect directly population behavior near and after the peak number had been attained. Specifically,

the larger the density delay coefficient, the more likely is population decline (or sometimes cyclical behavior) after the peak.

The apparently strong role of chance in the timing of population take-offs prompted us in an earlier analysis to think that stochastic path dependence may affect multipopulation competition processes and outcomes (Carroll and Harrison 1993). We reasoned from the case of two populations *A* and *B* with a competitive relationship between each other such that the presence of organizations of one population inhibits the viability of the other. We let one of the populations, say *A*, emerge before the other and let them both be governed by identical processes of density dependence. We imagined two different scenarios of growth for *A* of the kind that seem possible simply because of chance—in the first, *A* grows rapidly and attains high density before *B* emerges, and, in the second, *A* grows slowly and is small in numbers when *B* emerges. Since the growth trajectory of population *B* depends on the path *A* has taken prior to its chance emergence, we conjectured that major differences in *B*'s evolution might result from chance variation in the size of *A* at the time when *B* starts. In other words, we believed that evolutionary processes among competing organizational forms following the model of legitimation and competition might be stochastically path dependent.

In an earlier article (Carroll and Harrison 1993), we reported the results of computer simulations used to investigate the problem more rigorously. We designed experiments of two competing organizational populations following the trajectories predicted by real-world estimates of the parameters of the density model. The simulations began with the growth of a single population; a second population appeared at a random time. The competitive relationships between the populations were set parametrically so that the second population was "structurally dominant"—it should always win the competition at equilibrium in a historically efficient world. We examined two cases, one with weak competitive relationships and one with strong competitive relationships. We assessed dominance by looking at the numbers of each population in the competition.

These earlier simulations showed that it is possible for a structurally inferior population to retain its early dominant position and to win outright the competition against a structurally superior competitor population. In fact, our study demonstrated that this unexpected outcome can occur commonly, even under conditions of strong competition. For instance, with the parameter settings examined, the structurally inferior population won the competition over 30% of the time. However, as with any simulation, the findings of this study were potentially very limited and the generality of the conclusions was an open issue.

Our efforts here extend this line of work. We report findings from

TABLE 1  
PARAMETERS OF THE BASELINE MODEL

	$\beta_1$	$\beta_2/1,000$	$\alpha_1$	$\alpha_2/1,000$	$\alpha_3$	$\gamma_0$
Simulation experiments .....	.005	-.0063	-.015	.018	.006	-.021
Argentinian newspapers.....	.009	-.097	-.050	.160	.014	-.194
Irish newspapers .....	.013	-.033	-.015	.027	.002	-.027
San Francisco newspapers...	.005	-.0063	-.015	.018	.004	-.021

many additional simulations as well as those from the previous study (for comparison).<sup>6</sup> The new simulations address a number of additional substantive questions and also allow for firmer conclusions. All simulations use the model of legitimation and competition as the baseline and all begin with a single organizational population and let a second population emerge at a random time.<sup>7</sup> As in the earlier study, we retain parameter settings for the baseline model that correspond closely to empirical estimates of newspaper organizational populations. Table 1 shows these settings (parameters correspond to those given in the equations above) and compares them to empirical estimates for three newspaper populations (as reported in Hannan and Carroll [1992]). Competition parameters vary by experiment and are given in relevant tables below; it should be noted that the values used are chosen to correspond to typical empirical estimates of interpopulation competition (see Hannan and Carroll 1992).

We report four sets of simulation experiments. One set of experiments resembles the previous study: the second population is set to be structurally superior or dominant. Another set of experiments uses the same framework but sets the two populations to be structurally equal. A third set also retains the framework but makes the initial or first population the structurally superior competitor. Finally, a fourth set extends the framework to multiple competing populations (as many as five), where populations are successively stronger in structural terms than earlier populations. Within each of the four general setups, the strength of the competitive relationships varies. We report findings for a total of 27 experiments (4 for the first setup, 5 for the second, 8 for the third, and 10 for the fourth), each run for at least 100 trials.

<sup>6</sup> The previously reported findings are shown in tables below as experiments B1 and B2.

<sup>7</sup> We make the assumption that a disappearing population cannot reemerge for simplicity. An obvious extension of the work reported here involves relaxing this assumption, which is captured in at least a qualitative sense by our simulations involving more than two populations.

Stated more technically, the experiments are designed as follows:

*Set 1: Structurally superior population B.*—Population *A* begins the simulation with size = 1 at time = 0. Population *B* emerges randomly at a later point in time stochastically set by a constant rate model. Both populations are governed by similar founding and mortality processes with identical baseline rates and identical forms of nonmonotonic density dependence. Population *B* is structurally superior to *A* in that its density exerts a negative effect on *A*'s founding rate and a positive effect on *A*'s mortality rate while *A* exerts analogous but much smaller effects on *B*. That is, in terms of the equations above,  $\delta_A < \delta_B < 0$  and  $\eta_A > \eta_B > 0$ . Once the density of either population reaches 0, it is considered defunct and cannot reemerge. The simulation is conducted for the equivalent of 500 years and then stopped. It is repeated in 100 or more independent trials, changing only the "seeds" used for the generation of random numbers. This set of trials constitutes one experiment. Experimental variation within this setup consists of varying the competitive intensity of the relationship between the two populations. That is, the absolute values of  $\delta$  and  $\eta$  are changed in different experiments.

*Set 2: Structurally equal strength populations.*—Identical to the set 1 experiments except that here the competitive relationship between populations are equal—neither *A* nor *B* is structurally superior. The parameters are set  $\delta_A = \delta_B < 0$  and  $\eta_A = \eta_B > 0$ . Again, different experiments within this setup also vary  $\delta$  and  $\eta$ .

*Set 3: Structurally superior population A.*—Set 3 is identical to experiments in the other two sets except that here the first population, *A*, is set to be the structurally superior competitor. The parameters are constrained such that  $\delta_B < \delta_A < 0$  and  $\eta_B > \eta_A > 0$ . Experiments within the setup vary competitive intensity between *A* and *B*.

*Set 4: Multiple populations with "progress."*—The general structure of population evolution remains identical to the other sets of experiments. Here, however, as many as five populations are allowed to emerge.<sup>8</sup> Each successive population is set to be structurally superior to all previous populations. So the last, or fifth, population is the strongest overall. Experiments within the setup vary the relative and absolute competitive intensities among the five populations.

<sup>8</sup> Competitive relationships for multiple populations are modeled as pairwise population competition, and higher-order competitive effects are neglected. Hence the founding rate for the fifth population, *E*, is given by:

$$\begin{aligned}\lambda_E = & \exp[\beta_{E0} + \beta_{E1}N_E(t) + \beta_{E2}N_E^2(t) \\ & + \delta_{EA}N_A(t) + \delta_{EB}N_B(t) \\ & + \delta_{EC}N_C(t) + \delta_{ED}N_D(t)].\end{aligned}$$

In a historically efficient system, the equilibrium outcomes of these experiments are obvious: the structurally superior population should eventually dominate the other population(s) numerically. However, as we have seen in the earlier study, path dependence arising from chance can sometimes undermine efficiency and lead to dominance in equilibrium by the structurally inferior population. Even when the structurally superior population wins the competition, the process sometimes takes a long time to reach equilibrium, and the inferior population(s) appear(s) to be dominant for much of the competitive history. Either situation implies that an analyst using the assumption of historical efficiency may be misled when viewing data. Accordingly, we use our experiments to seek to answer three questions: First, how often does the structurally superior population dominate in terms of numbers of organizations? Second, how long does it typically take for the winning population to dominate? Third, how much variability is there in the time required for the winning population to dominate? Although we have no exact rule by which to measure "acceptable" levels of unexpected outcomes, we believe that anything greater than a trivial level poses potential problems for those invoking historical efficiency as a working assumption.

Should path-dependent outcomes emerge, important questions arise as to their source. These are easiest to assess in the simple experiments with two competing populations, where two randomly induced variables seem potentially capable of playing major roles in generating path dependence: (1) the timing of the emergence of population *B*, and (2) the growth pattern of population *A* before the emergence of population *B*. Among other things, analysis of these variables might inform a recent debate in the strategic management literature on the relative importance of strategic maneuvers designed to exploit entry barriers (e.g., Porter 1980) versus those based on development of organizational capabilities and resources (e.g., Teece, Pisano, and Shuen 1990; Grant 1991). If timing of entry proves critical, then barriers that delay a competitor's entry may be more advantageous.

Our simulation methods build on the procedures developed by Hannan and Carroll (1992, chap. 8), who describe them in detail. Taking their program as a guide, we coded a more efficient and faster program in QuickBASIC. We expanded the program to include two or more populations and to allow them to interact in the ways specified above. We also refined the program by recalibrating the time periods to the equivalent of months rather than years; this change reduces instability due to the discrete time structure of the simulation.<sup>9</sup>

<sup>9</sup> We further examined stability by recalibrating the time periods to the equivalents of weeks, and then days. A number of test runs with the weekly and daily calibrations

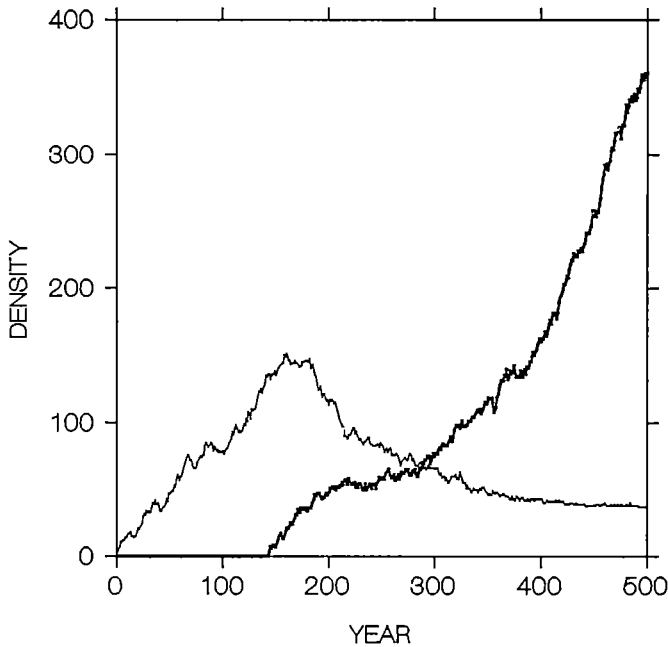


FIG. 1.—Realization of evolution of two organizational populations

## FINDINGS

Figures 1 and 2 illustrate the types of trajectories generated by the simulation. Both figures present plots of organizational density for the two competing populations *A* and *B* across the simulation period of 500 years. Both examples are from the set of runs where population *B* is structurally superior (set 1) and use identical parameter settings—differences in the two figures are the result of stochastic variation or chance.

In the realization shown in figure 1, population *A* initially grows steadily for 150 years or so, at which point it peaks at a density of roughly 150. It then declines gradually until the simulation's end. Population *B* emerges in this trial at about year 150 and grows rapidly at first, then slows, and finally grows very rapidly up to a final peak of about 350. Despite its eventual dominance of population *A*, the density of population *B* does not surpass that of *A* until almost 150 years after its emergence.

The realization for population *B* shown in figure 2 looks somewhat similar except that it begins earlier. (The peak of approximately 400 apparently represents the equilibrium density for the model with these

---

showed no discernible substantive differences from the monthly calibrations. That is, system behavior remained similar under these fine-grained simulations.

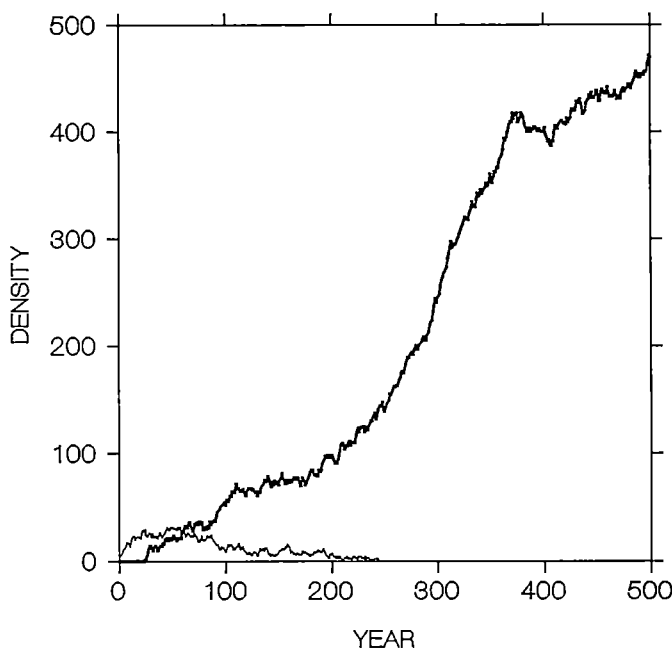


FIG. 2.—Another realization of evolution of two organizational populations

parameter settings.) Perhaps because of this earlier start of the dominant competitor, population *A* never develops much. After growing to a density of about 30 in year 50, *A* levels off, declines, and eventually disappears a bit after the 200-year point. Population *B* needs only about 30 years to dominate *A* numerically in this trial.

These two sample simulations illustrate the kind of stochastic variation in population growth processes that might generate path dependence in competitive struggles between populations. Because it is obviously silly to draw inferences from only two trials, we ran at least 100 trials of each experimental condition. The massive amount of data generated by these simulations limits us to reporting descriptive summary statistics for each experimental condition. Table 2 gives this information for the set of experiments with a structurally superior population *B* (set 1), table 3 does so for the set with structurally equal populations (set 2), and table 4 for those experiments when population *A* is set to be structurally superior (set 3).

Table 2 presents the outcomes of four experiments where the second population to emerge, population *B*, is structurally superior relative to the first population, *A* (set 1). The experiments differ in competitive intensity, showing progressively greater competitive interaction between



TABLE 2  
SIMULATION OUTCOMES FOR EXPERIMENTS WITH STRUCTURALLY SUPERIOR POPULATION B (SET 1)

Experiment	<i>N</i> of Runs	$\delta_A$	$\delta_B$	$\eta_A$	$\eta_B$	% Trials <i>B</i> Dominates	Mean Time until <i>B</i> Dominates*	% Trials <i>A</i> Disappears	% Trials <i>B</i> Disappears
B1.....	200	-.010	-.001	.010	.001	64	621	33	5
B2.....	200	-.030	-.003	.030	.003	69	416	62	31
B3.....	100	-.060	-.006	.060	.006	71	237	70	28
B4.....	100	-.100	-.010	.100	.010	61	179	61	39

\* Measured in simulated months.

TABLE 3  
SIMULATION OUTCOMES FOR EXPERIMENTS WITH STRUCTURALLY EQUAL POPULATIONS (SET 2)

Experiment	<i>N</i> of Runs	$\delta_A$	$\delta_B$	$\eta_A$	$\eta_B$	% Trials <i>B</i> Dominates	Mean Time until <i>B</i> Dominates*	% Trials <i>A</i> Disappears	% Trials <i>B</i> Disappears
AB1.....	100	-.005	-.005	.005	.005	27	411	3	60
AB2.....	100	-.010	-.010	.010	.010	19	521	4	85
AB3.....	100	-.020	-.020	.020	.020	12	277	6	89
AB4.....	100	-.030	-.030	.030	.030	6	51	6	94
AB5.....	100	-.060	-.060	.060	.060	6	21	6	92

\* Measured in simulated months.

TABLE 4  
SIMULATION OUTCOMES FOR EXPERIMENTS WITH STRUCTURALLY SUPERIOR POPULATION A (SET 3)

Experiment	N of Runs	$\delta_A$	$\delta_B$	$\eta_A$	$\eta_B$	% Trials B Dominates	Mean Time until B Dominates*	% Trials A Disappears	% Trials B Disappears
A1.....	100	-.001	-.005	.001	.005	9	148	4	85
A2.....	100	-.001	-.010	.001	.010	5	7	4	94
A3.....	100	-.003	-.010	.003	.010	7	64	4	96
A4.....	100	-.005	-.010	.005	.010	17	97	7	89
A5.....	100	-.007	-.010	.007	.010	13	338	2	91
A6.....	100	-.005	-.030	.005	.030	5	1	5	95
A7.....	100	-.010	-.030	.010	.030	1	1	1	96
A8.....	100	-.020	-.030	.020	.030	7	27	3	96

\* Measured in simulated months.

populations in experiments B1 through B4. In a historically efficient world, one would expect that as competition intensifies, the more likely it is that the structurally superior population will dominate and the faster this outcome will obtain. Table 2 shows support for the second of these expectations (about speed of the process) but not the first (about dominance). As in our earlier simulations, the superior population dominates only 60%–75% of the trials, and this outcome is not a simple linear function of competitive intensity. In fact, the experiment with the most intense competition (B4) is the one where the inferior population *A* is most likely to dominate, showing up as the winner in over 38% of the trials.

For those trials where the structurally superior population *B* wins the competition, however, much of the system's behavior resembles a historically efficient process. This is seen clearly in the distributions of overtake times for *B* and the final joint distributions of density for *A* and *B*, which we have inspected.<sup>10</sup> Intensified competition leads to a faster overtake time for population *B*. It also increases the probability of elimination or competitive exclusion by either population.

Table 3 presents the simulation results for five experiments where the two organizational populations are structurally equal as competitors (set 2). Again, the experiments vary in the intensity of interpopulation competition. If efficiency alone were driving this process, one might predict that outcomes would be roughly equal among the populations. That is clearly not the case, however. In the vast majority of trials, the initial population, *A*, dominates the process. Population *B* manages to overcome *A*'s headstart an appreciable number of times only in the less intense competitive conditions—and even there *B* dominates with less frequency than did the inferior populations in the experiments of set 1 reported in table 2. So the timing of population entry and growth is apparently a strong force in determining these evolutionary outcomes.

Moreover, as with the set 1 experiments with *B* structurally superior, competitive intensity again exacerbates competitive exclusion of one or the other population. This reinforces and strengthens the conclusion about timing—not only does the first population dominate in these experiments, but it is also very likely to exclude its structurally equal competitor.

Table 4 shows the results of eight experiments where the first population to appear, population *A*, is structurally superior (set 3). If this system is historically efficient, population *A* will dominate, and given the above findings about timing of entry, it would not be unreasonable to expect *A* to win every competition—it is, after all, both first and structurally supe-

<sup>10</sup> Some of these distributions are shown in Carroll and Harrison (1993).

rior. Results show this not quite to be the case. Although population *A* does dominate in the vast majority of the trials in every experiment and it usually does manage to exclude population *B*, path dependence influences the outcome of the process 5%–15% of the time. Despite its disadvantaged entry order and its structural inferiority, population *B* still dominates the competition with nontrivial frequency.

How important are *B*'s entry time and *A*'s size at *B*'s entry in producing outcomes? Table 5 presents logistic regression estimates of simulation outcomes on variables measuring a population's competitive strength and these other two factors. The outcome measure is a binary variable signifying whether population *B* ever dominates the competition.<sup>11</sup> Because of their inherently different structures, a separate regression was run for each of the three different sets of experiments. Within a set, data for all the experiments were pooled. (So, e.g., set 1 contains 600 observations: 200 each for experiments B1 and B2 and 100 each for B3 and B4.) The first regression we estimated assessed only the effects of population competitive strength: It regressed the outcome variable on a set of dummy variables representing each experimental condition except an omitted one (represented by the intercept). A second regression included as independent variables the effects of *B*'s entry time and the effect of *A*'s size at *B*'s entry. For ease of comparison we do not present all the coefficients of the dummy variables. Rather, we present the summary measures of fit for both regressions and the coefficients associated with the timing and size variables in the second regression.

Comparing the measures of fit for the regression using only the strength-of-competition variables with those also using the timing and size variables demonstrates the importance of the latter in producing evolutionary outcomes. In all sets, adding the timing and size variables significantly improves the ability to predict the dominant population,<sup>12</sup> so the differences produced in the simulations by these randomly induced factors play a significant role in determining outcomes.

Between the two variables, *B*'s entry time and *A*'s size at *B*'s entry, the latter consistently shows the stronger effect on outcomes. Timing of *B*'s entry is nonsignificant, while *A*'s size when *B* enters always shows

<sup>11</sup> In a slightly different analysis we ran similar regressions on an outcome variable indicating *B*'s dominance at the end of the simulation. This analysis leads to similar conclusions. Another way to conduct this assessment would be to run regressions using the ratio of population *B*'s density to *A*'s (or to the total of *A* plus *B*) at the simulation's end. We believe that the approach reported in the table provides for a sharper focus on the question of primary theoretical interest.

<sup>12</sup> In the "*B* stronger" set of experiments (set 1), the variables measuring competitive strength do not even show a statistically significant relationship to the outcomes (see also Carroll and Harrison 1993).

TABLE 5  
LOGISTIC REGRESSION ESTIMATES OF SOURCES OF EVOLUTIONARY DOMINANCE

SET OF EXPERIMENTS	SUMMARY MEASURE OF FIT		COEFFICIENT FOR <i>B</i> 's ENTRY TIME <sup>b</sup>	COEFFICIENT FOR <i>A</i> 's SIZE AT <i>B</i> 's ENTRY
	Model with Competitive Strength Dummy Variables <sup>a</sup>	Model with Competitive Strength, Timing, and Size Variables		
Set 1— <i>B</i> superior .....	3.02 ( <i>df</i> = 3)	509.3 ( <i>df</i> = 5)	.022	-.048*
Set 2— <i>A</i> and <i>B</i> equal ..	27.5 ( <i>df</i> = 4)	271.0 ( <i>df</i> = 6)	.069	-.178*
Set 3— <i>A</i> superior .....	24.9 ( <i>df</i> = 7)	335.6 ( <i>df</i> = 9)	.113	-.217*

NOTE.—The dependent variable for all trials is a dummy variable indicating whether *B* ever dominates *A*, as measured by population density.

<sup>a</sup> Summary used is chi-square for  $-2 \log$ -likelihood ratio.

<sup>b</sup> In order to facilitate comparison, the units for this variable have been divided by 100.

\*  $P < .05$ .

a strong significant effect. Path dependence in this process, then, seems to depend most on the pattern of *A*'s growth.<sup>13</sup> That is, if *A*'s density has accelerated rapidly by the time of *B*'s entry, then *B* is less likely to dominate the competition, whatever its inherent competitive strength.

Table 6 presents ordinary least squares regressions of population *B*'s takeover or dominance time on the competitive strength, timing, and size variables for the cases in which *B* dominates. These estimates reinforce the above conclusions: The timing and size variables significantly increase explanatory power, especially the extent of population *A*'s growth, which appears to be the more important factor.

How general are these findings? Table 7 presents the results of a more general set of simulations with five competing populations (set 4). The simulation starts with a single population, *A*, which evolves according to the same density-dependent specifications used above. Subsequent populations *B*, *C*, *D*, and *E* emerge randomly and in order. Each successive population is governed by its own density-dependent processes of legitimation and competition but is also set to be structurally superior to all previous populations.<sup>14</sup> So population *E* is structurally the strongest of all and should dominate in a historically efficient world. The top panel of table 7 shows the exact structural relationships of the populations to each other—it depicts what is commonly referred to as the competition matrix.<sup>15</sup> (We give values for the competition matrix of founding rates; the mortality rate competition matrix is identical except that the signs of

<sup>13</sup> *B*'s entry time plays an indirect role in the sense that the later *B* enters, the more opportunity *A* has to reach its take-off point. The regressions show, however, that statistically it is *A*'s density when *B* enters that is the major factor.

<sup>14</sup> One reviewer raised questions about the substantive meaning of this setup, asking for a distinction between progressive new forms that improve on a basic technology and those that supplant an old technology with an entirely new way of doing things. As we interpret the model with the theory of legitimation and competition, the crucial distinction is between forms that require establishment of social taken-for-grantedness and those that do not (either because they are already taken for granted or because they are not perceived as being different from a previously established form). That is, the framework depicts a progressive sequence of organizational forms where each form cannot benefit from the legitimation of earlier populations and thus must undergo its own process of legitimation. It seems reasonable to think that populations using radically new technologies will be more likely to face this constraint than those using refinements of an existing technology, although social legitimation processes need not behave reasonably all the time.

<sup>15</sup> This is the  $\delta_{ij}$  matrix in the founding rate model:

$$\lambda_i = \exp[\beta_{i0} + \beta_{i1}N_i(t) + \beta_{i2}N_i^2(t) + \sum_{j \neq i} \delta_{ij}N_j(t)].$$

An analogous term,  $\sum \eta_{ij}N_j(\mu)$ , is used in the mortality rate model. For these experiments,  $\eta_{ij} = -\delta_{ij}$ .

TABLE 6  
ORDINARY LEAST SQUARES REGRESSION ESTIMATES OF SOURCES OF DOMINANCE TIME OF POPULATION *B*

SET OF EXPERIMENTS	SUMMARY MEASURE OF FIT			COEFFICIENT FOR <i>B</i> 's ENTRY TIME <sup>b</sup>	COEFFICIENT FOR <i>A</i> 's SIZE AT <i>B</i> 's ENTRY
	Model with Competitive Strength Dummy Variables <sup>a</sup>	Model with Competitive Strength, Timing, and Size Variables			
Set 1— <i>B</i> superior .....	.089	.593	.056	.109*	
Set 2— <i>A</i> and <i>B</i> equal..	.166	.628	— .009	.226*	
Set 3— <i>A</i> superior .....	.230	.454	.001	.162*	

NOTE.—The dependent variable for all trials is the time in months from the start until *B* achieves numerical dominance.

<sup>a</sup> Summary measure used is  $R^2$ .

<sup>b</sup> In order to facilitate comparison, the units for this variable have been divided by 100.

\*  $P < .05$ .



TABLE 7

SIMULATION OUTCOMES FOR EXPERIMENTS WITH MULTIPLE POPULATIONS (SET 4)

A. EFFECT OF POPULATION DENSITY ON FOUNDING RATES					
DEPENDENT POPULATION	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>
<i>A</i> .....	0	-.008	-.012	-.016	-.020
<i>B</i> .....	-.004	0	-.008	-.012	-.016
<i>C</i> .....	-.003	-.004	0	-.008	-.012
<i>D</i> .....	-.002	-.003	-.004	0	-.008
<i>E</i> .....	-.001	-.002	-.003	-.004	0

B. NUMBER OF TRIALS WON					
MULTIPLIERS OF COMPETITION MATRIX	Population <i>A</i>	Population <i>B</i>	Population <i>C</i>	Population <i>D</i>	Population <i>E</i>
1.....	67	25	24	28	106
2.....	77	18	17	36	102
3.....	90	26	23	32	79
4.....	106	36	28	25	55
5.....	128	25	26	16	55

NOTE.—Panel A shows the coefficients of the population density variables on the founding rates. The set of coefficients is commonly referred to as a competition matrix (see nn. 8 and 15). Each row of panel B shows the distribution of outcomes for 250 trials at the specified level of competitive intensity (given by the multiplier of the competition matrix).

the coefficients are reversed.) The lower panel of the table gives the distribution of dominance outcomes by population at simulation end. Each row shows the number of trials won (meaning numerical dominance at the end of the simulation) by the various populations out of a total of 250 trials. Successive rows report separate simulation trials where competitive intensity was increased by multiplying the competition matrix by integer factors. For instance, the last row shows simulation outcomes for experiments with the greatest competitive intensity, where the values of the competition matrix are five times the values shown in the top panel of the table.

The bottom panel of Table 7 shows that many of the conclusions from the two-population simulations (sets 1–3) hold for this more general case as well. In the first group of experiments listed, those with a competition matrix multiplier of unity, the structurally superior competitor, population *E*, wins the most trials. However, the percentage of trials *E* wins is less than half, 106 out of 250. Moreover, in those trials where *E* does not win, the most likely winner is population *A*, the structurally inferior competitor. Even more striking is the shift in the distribution of winners as competition intensifies. As the competition matrix multiplier increases, the percentage of trials where *E* wins drops almost by half (55 out of 250

TABLE 8

SIMULATION OUTCOMES FOR EXPERIMENTS WITH MULTIPLE POPULATIONS (SET 4)

A. EFFECT OF POPULATION DENSITY ON FOUNDING RATES					
DEPENDENT POPULATION	A	B	C	D	E
A .....	0	-.008	-.016	-.032	-.064
B .....	-.004	0	-.008	-.016	-.032
C .....	-.002	-.004	0	-.008	-.016
D .....	-.001	-.002	-.004	0	-.008
E .....	-.0005	-.001	-.002	-.004	0

B. NUMBER OF TRIALS WON					
MULTIPLIERS OF COMPETITION MATRIX	Population A	Population B	Population C	Population D	Population E
1 .....	47	13	18	37	135
2 .....	59	12	27	38	114
3 .....	44	23	20	42	121
4 .....	60	18	23	40	109
5 .....	77	33	29	42	74

NOTE.—Panel A shows the coefficients of the population density variables on the founding rates. The set of coefficients is commonly referred to as a competition matrix (see nn. 8 and 15). Each row of panel B shows the distribution of outcomes for 250 trials at the specified level of competitive intensity (given by the multiplier of the competition matrix).

trials) and the corresponding percentage for *A* almost doubles (to 128 out of 250). In the experiment with the most intense competitive relations between populations, those with a matrix multiplier of five, the weakest competitor, population *A*, wins over half of the trials.

Table 8 presents similar findings for the same type of simulation but with different parameter settings in the competition matrix. Relative to table 7, these settings reflect greater structural superiority of each successive population. That is, the increase in the structural competitive advantage for each new population is greater than in the previous simulations. Here the outcomes for *E* show a system slightly more efficient. However, the same general patterns in outcomes found above are replicated. Most notably, as competition intensifies, the likelihood of the structurally inferior competitor (population *A*) prevailing increases as well. These findings increase our confidence in the generality of the earlier simulations.<sup>16</sup>

<sup>16</sup> Our confidence in the findings is further enhanced by the results of a sensitivity analysis of the simulation models. In this analysis, experiments were rerun with a change of 25%–33% in a major parameter (quadratic density terms were dealt with in pairs). The experiments were rerun for another 100 trials. Experiments representing the endpoints of the range for each set were rerun: B1 and B4, AB1 and AB4, and

## DISCUSSION

Our goal here was to make a structured assessment of the consequence of assuming historical efficiency in organizational evolution. We used as our basic framework the empirically supported ecological model of density-dependent legitimation and competition. We focused on a version of this model with two or more competing populations where the timing of all but the first population's appearance is random. We designed experiments that varied the structural superiority of the populations—and thus the expected equilibrium outcomes—and the intensity of competition between them. Using computer simulations based on empirical estimates of model parameters, we addressed three basic questions concerning (1) the frequency with which the structurally superior population actually dominates, (2) the time it takes for a population to achieve a position of dominance, and (3) the variability in the time to achieve dominance.

At a general level, the findings show clearly that assuming historical efficiency in organizational evolution can be problematic. Outcomes that appear irrational from the point of view of a population's structural superiority or inferiority were observed in a variety of experimental conditions. These outcomes can be explained in the simulations as path-dependent consequences of random variations in population growth before the emergence of competing populations.

In more specific terms, we found that both previous growth of early populations and entry time of later populations strongly affected outcomes. Early populations that grew fast showed remarkable resilience in warding off later but structurally superior competitors. Relatedly, subsequent competitors that entered the competitive arena quickly were better able to exert their structural superiority and to dominate. Although other interpretations may also apply, the theoretical mechanism in the model hypothesized to be responsible for these effects is the legitimation or social taken-for-grantedness of the earlier organizational form. That is, the social acceptance of a particular organizational form may embed the population defined by it so strongly in the social fabric of its environment as the "right way" to accomplish a particular task or goal that it renders

---

A4. Parameter variations were made systematically in both up and down directions and each major model parameter was varied. In general, substantive conclusions do not change within these additional experiments. Population *B* still dominated in a substantial proportion of the trials in each experiment. For example, with  $\alpha_3$  set to .004 (so that the experiments had parameter settings identical to those found in the San Francisco newspaper study), population *B* dominated in 56% of the trials in experiment B1 and in 41% of the trials in experiment B4 (cf. table 2); in the multiple population experiments in set 4 (table 7), population *A* dominated more often and population *E* less often with  $\alpha_3 = .004$ , and the proportion of *A*'s dominance still increased with increases in the competition matrix multiplier.

technically superior alternatives unthinkable and thus unviable.<sup>17</sup> Because of such legitimation, a population of, say, 1,000 established organizations may outlast a technically superior population of, say, 20 organizations. The eventual dominance of automobile manufacturers using gasoline-powered internal combustion engines over those using steam- and electric-powered engines in the early part of the automobile industry is by some accounts the result of such a socially constructed process.

In our simulations, entry time of all but the initial population (and, by inference, population density of the initial population at the time of a competitor's entry) was simulated as a random factor. In the real world, of course, a firm's entry time is frequently a calculated decision. We do not think that this fact undermines our results—in fact, it strengthens them because organizational strategists can likely do better in making such calculations than random action allows. More generally, this finding implies that theories of strategic management that focus on entry processes (e.g., Porter 1980) should not be neglected by those theories (e.g., Teece et al. 1990; Grant 1991) that attend to organizational capabilities or resources.

We also found that in multipopulation competitions more intense structurally induced competition gave advantages to both the strongest and weakest populations, with the advantage shifting more to the first (and weakest) population as intensity rose. This pattern likely emerged because these contexts created greater instability in the system as a whole by accelerating the interaction dynamics—many populations got competitively excluded at early states. The finding complements May's (1974) classic discovery that complexity begets instability in models of this kind.

The findings strike some with whom we have discussed them as surprising. Given analytical work on related nonlinear Polya processes, however, we believe they are credible.<sup>18</sup> The findings are also generally consistent with empirical studies of technological evolution, which show long lag times between the emergence of a new superior technology and its eventual dominance (see Cooper and Schendel 1979).

Williamson (1993), in considering the findings of our simulations as well as other apparently path-dependent phenomena, has suggested that outcomes of the kind we observed here may not be important because they are "irremediable." For him, remediable inefficiencies are "those conditions for which a feasible alternative can be described which, if introduced, would yield net gains" (p. 140). Although his comments might be interpreted in various ways as it pertains to our modeling framework, it seems to us that for an organizational form to be "structurally

<sup>17</sup> Alternatively, such embedding may create network externalities that tilt the economics of the situation in favor of the earlier form.

<sup>18</sup> The broadly similar work by Kauffman (1993, pp. 270–76) also reinforces our confidence in the findings.

superior" as we have defined it, the form *must* yield net gains in terms of the underlying evolutionary process if the process is to be considered efficient. That is, structural superiority, as we have defined it, in fact implies remediability. Yet path-dependent outcomes are apparent.

So that our findings are not overinterpreted, we think it is important to emphasize that the systematic component of the model we used in our simulations did account for a large percentage of observed outcomes. However, these were not so common as to justify the unthinking use of the assumption of historical efficiency. In fact, our findings suggest that matter-of-fact use of this assumption might lead to incorrect inferences about competition as much as one-third of the time in real-world settings when complete competitive histories are used. The error rate is likely higher for censored data.

We stress the possibility of this problematic condition, not its inevitability. We have no doubt that it is possible to rerun these simulations with different parameter settings and different population relationships so as to produce results that are "better" for historical efficiency. Such demonstrations would be beside the point in our opinion, especially if they used unrealistic parameter settings. As long as true parameters are unknown in the real world, the dangers of historical efficiency lurk potentially behind every analysis assuming it.

We also note that our study has considered only one of a variety of outcome variables relevant to competition between organizational forms. We chose number of organizations because of its importance to many sociological questions and because a well-established model for its long-term evolution was available. It remains an open question as to whether historical efficiency is a plausible assumption for other important competitive outcomes such as market share, average size of organizations, and the like.

Looking past the problems of historical efficiency, the simulation findings raise thorny issues for empirical research on organizational evolution at least as it pertains to numbers of organizations. If "inferior" populations can sometimes dominate "superior" ones, then how can researchers assess the causes of dominance in any particular historical instance? One strategy would be to assess analytically the specific characteristics of each organizational form independent of historical experience.<sup>19</sup> In many

<sup>19</sup> Studies of colonization in bioecology (e.g., MacArthur and Wilson 1967) suggest that a broad definition of performance should be considered in making such assessments. In particular, organizational characteristics associated with the fast proliferation of a form may be more important in explaining early dominance than those characteristics associated with narrow conceptions of efficiency. That is, organizational forms that can be easily copied may be able to achieve numbers sufficient to overcome the efficiency advantages of competing forms that are not easily duplicated. In ecology, this is the classic distinction between so-called r-strategists and K-strategists (Hannan and Freeman 1989).

cases, it would be difficult to find data appropriate to making such an argument, especially for organizational forms appearing well back in history. We also question how objective such an analysis could be, since knowing the outcome of the historical struggle is likely to color a researcher's view of the data.

To discern contexts where path dependence may have affected organizational population evolution, one clue would be the presence of organizational forms with positive feedback mechanisms. The most prevalent of these are likely density-dependent legitimation, learning-by-doing, economies of scale, and network externalities. Many of these can be identified and have their strength assessed with established methods and available data. In general, the more such mechanisms are present and the greater their strengths, the more likely organizational evolution is path dependent.

What looks to be the best strategy to avoid mistaken inferences, however, would be to examine outcomes across a number of similar contexts. As Cohen (1976, p. 393) aptly comments in recognizing similar problems of inference in bioecology, "The variation in an ensemble of replications must become an object of study when the limit random variable of an individual replication is nondegenerate." The value of this approach is readily demonstrated by reexamining the simulations and thinking of the multiple runs across specific parameter settings as ensembles (referred to as sets throughout the paper). In all but a very few of these ensembles, the structurally superior population dominates the greatest proportion of trials (note also that the exceptions involve the sets of experiments with strongest competitive intensity). Therefore, a researcher examining outcomes across a number of contexts and looking for central tendencies would be much less likely to make an incorrect inference.

Calling for comparative research, as the suggestion to examine sets of similar context does, is an old saw for sociology. What is different here is the suggestion that comparisons should be made across populations and environments, not single organizations. Successful comparison of this kind requires the use of comparable models and measures, a nontrivial demand on empirical research. Work in organizational ecology shows, however, that such research is possible.

## REFERENCES

- Arthur, W. B. 1987. "Self-Reinforcing Mechanisms in Economics." Manuscript. Stanford University, Food Research Institute.
- . 1989. "Competing Technologies, Increasing Returns and Lock-In by Historical Events." *Economic Journal* 99:116–31.
- Arthur, W. B., Y. M. Ermoliev, and Y. M. Kaniovski. 1987. "Path-Dependent

- Processes and the Emergence of Macro-Structure." *European Journal of Organizational Research* 30:294-303.
- Barnett, W. P. 1993. "Dynamics of Competitive Intensity." Manuscript. Stanford University, Graduate School of Business.
- Barnett, W. P., and G. R. Carroll. 1987. "Competition and Mutualism among Early Telephone Companies." *Administrative Science Quarterly* 32:400-421.
- Carroll, G. R., and J. R. Harrison. 1993. "Evolution among Competing Organizational Forms." *World Futures: The Journal of General Evolution* 36:91-110.
- Cohen, J. E. 1976. "Irreproducible Results and the Breeding of Pigs, or Nondegenerate Limit Random Variables in Biology." *BioScience* 26:391-94.
- Cooper, A. C., and D. Schendel. 1976. "Strategic Responses to Technological Threats." *Business Horizons* 19 (1): 61-69.
- David, P. 1985. "Clio and the Economics of QWERTY." *American Economic Review* 75:332-37.
- Eggenberger, F., and G. Polya. 1923. "Über die Statistik verketteter Vorgänge." *Zeitschrift für angewandte Mathematik und Mechanik* 3:279-89.
- Feller, W. 1968. *An Introduction to Probability Theory and Its Applications*, 3d ed. Vol. 1. New York: Wiley.
- Grant, R. M. 1991. "Resource-Based Theory of Competitive Advantage." *California Management Review* 33:114-35.
- Hannan, M. T., and G. R. Carroll. 1992. *Dynamics of Organizational Populations: Density, Legitimation, and Competition*. New York: Oxford University Press.
- Hannan, M. T., and J. H. Freeman. 1989. *Organizational Ecology*. Cambridge, Mass.: Harvard University Press.
- Kauffman, S. A. 1993. *The Origins of Order*. New York: Oxford University Press.
- MacArthur, R. H., and E. O. Wilson. 1967. *The Theory of Island Biogeography*. Princeton, N.J.: Princeton University Press.
- March, J. G., and J. P. Olsen. 1989. *Rediscovering Institutions: The Organizational Basis of Politics*. New York: Free Press.
- May, R. 1974. *Stability and Complexity in Model Ecosystems*. Princeton, N.J.: Princeton University Press.
- Meyer, J., and W. R. Scott. 1983. *Organizational Environments: Ritual and Rationality*. Beverly Hills, Calif.: Sage.
- Milgrom, P., and J. Roberts. 1992. *Economics, Organization, and Management*. Englewood Cliffs, N.J.: Prentice-Hall.
- Petersen, T., and K. Koput. 1991. "Density Dependence in Organizational Mortality: Legitimation or Unobserved Heterogeneity?" *American Sociological Review* 56: 399-409.
- Pfeffer, J., and G. Salancik. 1978. *External Control of Organizations*. New York: Harper & Row.
- Porter, M. E. 1980. *Competitive Strategy*. New York: Free Press.
- Scott, W. R. 1992. *Organizations: Rational, Natural, and Open Systems*, 3d ed. Englewood Cliffs, N.J.: Prentice-Hall.
- Teece, D. J., G. Pisano, and A. Shuen. 1990. "Firm Capabilities, Resources, and the Concept of Strategy." Manuscript. University of California, Berkeley, Center for Research in Management.
- Weber, M. 1968. *Economy and Society*. New York: Bedminster.
- Williamson, O. 1981. "Economics of Organization: The Transaction Cost Approach." *American Journal of Sociology* 87:548-77.
- . 1993. "Transaction Cost Economics and Organization Theory." *Industrial and Corporate Change* 2:107-56.

# Stereotypes and Segregation: Neighborhoods in the Detroit Area<sup>1</sup>

Reynolds Farley, Charlotte Steeh, and Maria Krysan  
*University of Michigan*

Tara Jackson and Keith Reeves  
*Harvard University*

Two opposing hypotheses seek to explain why black-white residential segregation persists despite open housing laws. One perspective argues that discriminatory practices in the marketing of real estate are responsible. Another view contends that it is the preferences of both blacks and whites for their own neighborhoods that maintain segregation. Using data from the Detroit Area Study of 1976 and 1992, the authors test the hypothesis that stereotypes among whites play an important role in explaining their resistance to integrated neighborhoods. They conclude that stereotype use links white preferences to discriminatory real estate practices in a way that helps to explain the persistence of segregation in the Detroit area.

I think many of them have an institutionalized racism; whether they want it or not, it's there, it seems. And when they see us coming, the stereotypes come with us. [A black minister speaking about his white neighbors (Feagin and Sikes 1994)]

## INTRODUCTION

Despite the Fair Housing Act of 1968 and increasingly liberal white attitudes about principles of racial equity (Schuman, Steeh, and Bobo 1985, pp. 73–85), African-Americans remain residentially segregated from whites. The 1990 census identified 47 metropolises of one million or more.

<sup>1</sup> The 1992 Detroit Area Study was supported, in part, by the Ford Foundation, the Federal National Mortgage Association, and the University of Michigan. Correspondence may be addressed to Reynolds Farley, Population Studies Center, University of Michigan, 1225 South University Avenue, Ann Arbor, Michigan 48104-2590.



The average segregation score comparing the residences of blacks and whites in such places was 69.<sup>2</sup> The similar score comparing Asians to whites was 44, while that comparing Latinos to non-Hispanic whites was 48 (Frey and Farley 1993, appendix). Detroit had the greatest segregation and was the only location in which this segregation increased during the 1980s. Its score was 89—two standard deviations above the mean for large metropolises.

Why does segregation persist? Three causes have traditionally been cited: economic differences between the races, the preferences of blacks and whites, and discriminatory practices by brokers and lenders. The economic explanation has largely been jettisoned (Denton and Massey 1988; Farley 1977; Taeuber 1965). If residential segregation were a matter of income, rich blacks would live with rich whites and poor blacks with poor whites. This does not happen.

Figure 1 presents residential segregation scores for metropolitan Detroit in 1990 controlling for household income or for educational attainment. The index comparing black households with incomes under \$5,000 to similarly poor white households was 80; for households with incomes exceeding \$100,000 the same index was 83. Similarly, the segregation of whites from blacks hardly decreased with rises in educational attainment.

There is now a lively debate about which of the remaining two causes is more important, a debate closely linked to policies about open housing. In *The Declining Significance of Race*, William Julius Wilson (1978, 140–41) asserted that income was overtaking skin color as a determinant of where blacks lived and that blacks who had the requisite financial resources could move into the suburbs. Subsequently, William Clark (1986, 1988, 1989, 1991) analyzed residential preferences and concluded that both African-Americans and whites wished to live in neighborhoods in which their race was numerically dominant. Supposedly, segregation levels would remain high even if real estate dealers and lenders complied with fair housing laws because both races would seek neighborhoods where they would feel comfortable; that is, areas where their group dominated. According to these studies, reducing segregation apparently awaits changes in racial preferences, rather than levying larger fines against discriminatory brokers and lenders (for the argument that discrimination

<sup>2</sup> The measure of segregation is the index of dissimilarity. It would equal its maximum value of 100 in a situation of apartheid and would approach its minimum value of zero were individuals randomly assigned to their place of residence. These indexes were computed from block-group data from the censuses of 1980 and 1990 (Farley and Frey 1994; Frey and Farley 1993).

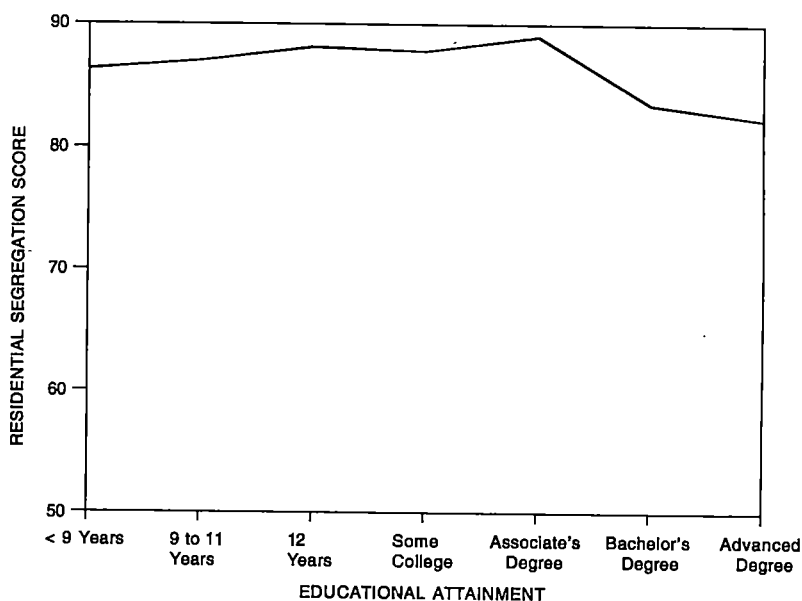
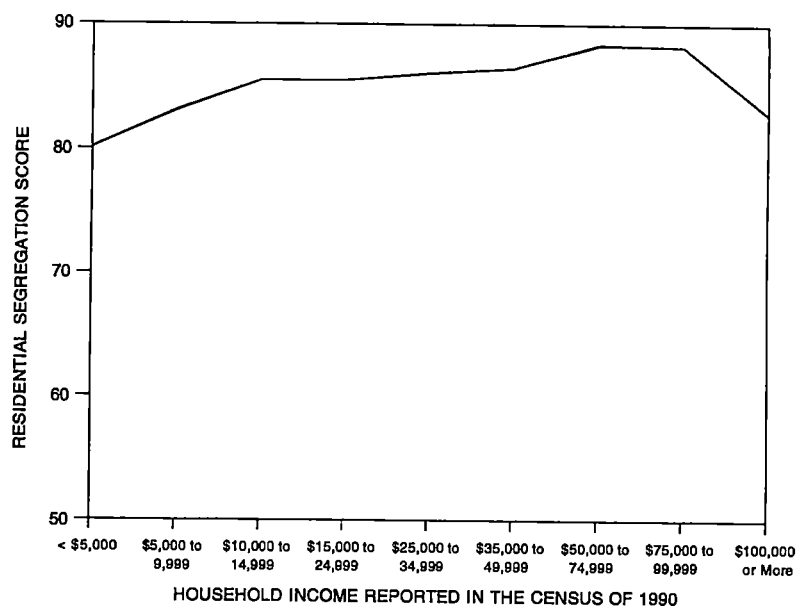


FIG. 1.—Residential segregation of blacks from whites, Detroit metropolitan area, 1990 (segregation scores were computed from census tract data and refer to Macomb, Oakland, and Wayne counties). *Panel 1*: Residential segregation controlling for income (households were classified by reported income in 1989 and race of head). *Panel 2*: Residential segregation controlling for education (based on population 25 years old and older, classified by race and educational attainment). Source: U.S. Bureau of the Census, *Census of Population and Housing 1990*, summary tape file 3A.

in the housing market is not responsible for segregation see Muth [1969, 1986] and Clark [1986]).

George Galster (1986, 1988, 1990 and 1992), John Yinger (1986), and previous investigators (Pearce 1979; Jackson 1985) stress the other cause. They argue that racial discrimination in the real estate market helped create and now maintains segregation. They cite many studies reporting that white and black home seekers are treated differently by real estate agents and that mortgage funds are generally more available to whites than to blacks with comparable financial circumstances (Bradbury, Case, and Dunham 1989; Carr and Megbolugbe 1993; Munnell et. al 1992; Turner, Struyk, and Yinger 1991; Yinger 1991). Using data from audit studies sponsored by the Department of Housing and Urban Development, George Galster and Mark Kenney (1988, table 1) demonstrate that discrimination by brokers increases segregation, a finding that implies that if the Fair Housing Act of 1968 were strictly enforced, discrimination might decrease and increasing numbers of blacks and whites would live alongside one another.

In their authoritative book, *American Apartheid*, Douglas Massey and Nancy Denton (1993, chap. 4) advance the discussion by hypothesizing that the preferences of whites result from the continued use of racial stereotypes. So long as whites believe that blacks lack a work ethic, are prone to criminal activity, and are less intelligent than whites they will disparage them as neighbors. Bankers and real estate agents may share these stereotypes and then market housing consistent with such beliefs. As Donald DeMarco and Galster (1993, p. 146) state, "Most discriminatory behavior in the housing market is founded upon either the personal prejudices of agents or their belief that it is in their financial interest to cater to the presumed prejudices of their Anglo customers." Massey and Denton hypothesize that blacks often experience discrimination when they seek housing, and, knowing they will be unwelcome if they enter white neighborhoods, they "prefer" locations where blacks are numerically dominant. Thus the preferences of blacks may be rooted in our history of racial antagonism.

This article has three purposes. We focus upon the nation's most segregated large metropolis: Detroit, one of 16 places labeled *hypersegregated* by Massey and Denton (1989). We use data collected during two waves of the Detroit Area Study (DAS) to examine the following: First, we summarize changes between 1976 and 1992 in the racial residential preferences of whites and blacks. Second, we test hypotheses developed by Massey and Denton that relate the use of stereotypes by whites to their preferences for white neighborhoods. Third, we discuss implications of

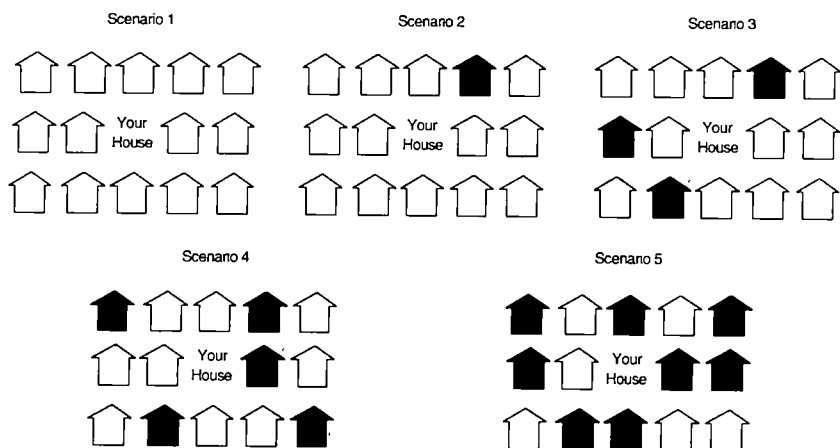


FIG. 2.—Neighborhood diagrams used for white respondents, DAS 1976 and 1992.

our findings for policies that might provide equal opportunities in the housing market.

## RACIAL RESIDENTIAL ATTITUDES OF WHITES, 1976 AND 1992

### Living with Blacks on the Block

Racial transition occurred in many neighborhoods within older metropolises such as Detroit after World War II (Hirsch 1983; Mayer 1960; Taeuber and Taeuber 1965, chap. 5). Whites resisted the entry of blacks to their neighborhoods, but eventually a few moved in. Shortly thereafter whites began to leave, often using federally backed loans to buy homes in exclusively white suburbs. After some years, the old neighborhood had a largely black population. This drastically altered the city of Detroit, whose white population fell by 86% as it changed from 16% black in 1950 to 76% black in 1990 (U.S. Bureau of the Census 1952, table 34; 1991, table 4). The number of whites in the city declined from 1,546,000 to 222,000.

To determine the preferences of *whites* in our 1976 and 1992 studies of the metropolis,<sup>3</sup> we presented every respondent with five cards, each of which showed 15 homes (see fig. 2). With the first card, we asked

<sup>3</sup> The DAS secured random samples of the population 21 years old and older in the Macomb, Oakland, and Wayne County areas, including the city of Detroit. The total sample size was 1,104 in 1976, 1,543 in 1992. Respondents and interviewers were matched with regard to race.

them to imagine that they lived in an all-white neighborhood—a realistic assumption for most—using the center home as theirs. They were then shown a second card, which indicated one house occupied by blacks and 14 by whites. We asked how comfortable they would feel if their own neighborhood came to resemble that minimally integrated neighborhood. If they said “very comfortable” or “somewhat comfortable,” they were shown cards with successively greater proportions of blacks until a card elicited a response of “somewhat uncomfortable” or “very uncomfortable,” or they came to the fifth card showing a majority black neighborhood. (For summary of 1976 findings, see Farley et al. [1978].)

There are reasons for optimism about whites’ changing attitudes. In 1976, three-quarters of our respondents said they would be comfortable living with one black family but, in 1992, this had increased to 84%. By 1992, seven out of 10 whites claimed they would feel comfortable if their neighborhood came to have the racial composition of the metropolis; that is, if it looked like card 3, which showed 12 white and three black households. This information is provided in figure 3.

As the ratio of blacks to whites increased, the comfort of whites declined, and, quite clearly, most whites—in both 1976 and 1992—felt uncomfortable when they were the racial minority. Just 35% of whites in 1992 said they would be comfortable in an eight-households-black, seven-households-white neighborhood, but this is a significant increase from 28% in 1976.

Interracial neighborhoods will never be stable if there is extensive “white flight” when blacks move in. We sought to measure whether whites would leave if blacks moved into their neighborhoods. We took the first mixed-neighborhoods card that elicited a response of “uncomfortable” from a white respondent and asked if he or she would try to move away should their own neighborhood come to have the racial composition pictured. If the respondent said no, we presented a card showing the next highest representation of blacks and repeated the “moving away” question. Responses are shown in the middle panel of figure 3. This question was posed to the 65% of white respondents who said they would feel uncomfortable if their neighborhood came to look like one of the mixed areas shown on the cards (the base for these percentages is the total white sample). We assume, for example, that a white who would try to move away from a three-households-black, 12-households-white neighborhood would certainly try to leave an area with eight black households and seven white households.

Few whites would try to move away if one black entered their neighborhood. In 1992, only 4% would do so, a significant drop from the 7% who would have moved away in 1976. If Detroit-area residents selected their neighborhoods randomly, the typical neighborhood would resemble

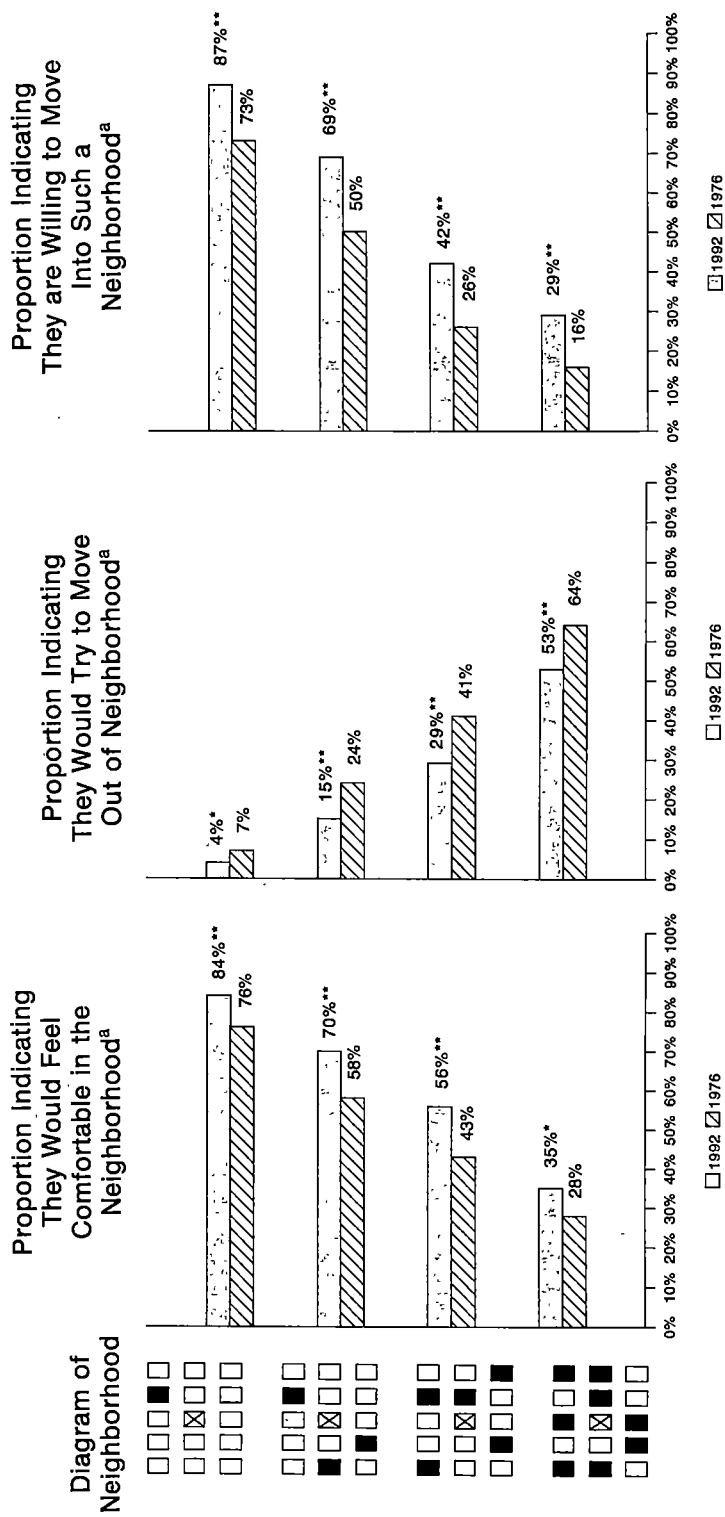


FIG. 3.—Attractiveness of neighborhoods of varying racial compositions for white respondents, DAS 1976 and 1992 (significance shown for change from 1976 to 1992; \* $P < .05$ ; \*\* $P < .01$ ; the denominator for % is the total white population).

the three-black-, 12-white-households situation. In 1992 15% said they would try to move away from a neighborhood like this, suggesting that the overwhelming majority of whites would remain and meaning that whites are willing to accept a representation of blacks on their own block equal to that of the metropolis. Greater representations of blacks, however, led more whites to say they would try to leave, and in 1992, as in 1976, the majority of whites would move away from a majority-black neighborhood, although even here there was a significant liberalization of white responses.

Because integrated neighborhoods will remain racially mixed only if some whites replace those blacks and whites who move away from such locations every year, we also assessed the willingness of whites to move into mixed areas. Each respondent was presented with the same five cards and was asked if there were any of these neighborhoods they were willing to move into should they find an attractive home they could afford.

Are Detroit-area whites willing to move into neighborhoods that already have black residents? The answer is yes if there are just a few, but no if there are many. In 1992, almost 90% of whites said they *would* move into a neighborhood with one black and 14 white residents (see fig. 3). Considering the neighborhood resembling the racial composition of the metropolis—three black households and 12 white households—almost 70% would move in, but 30% would not. The racial tolerance of whites has a limit, and neighborhoods with five or eight black households were not attractive to whites in either 1976 or 1992. White demand for housing in an area is clearly affected by its racial composition.

### How Widespread Were the Changes in White Attitudes about Residential Integration?

Were changes between 1976 and 1992 in attitudes widespread or were they restricted to younger whites or the extensively educated? We calculated scores indexing white attitudes concerning two dimensions of integration. Each had a minimum value of zero, which indicates the acceptance of residential integration, and a maximum of 100, which reports strong opposition.

First, if a white said he or she would be “very uncomfortable” should their neighborhood come to have one black resident, he or she received the maximum score of 100. If a person said they would be “very comfortable” in the eight-black-, seven-white-households neighborhood, he or she got the minimum score of zero on this index of *white discomfort* with black neighbors. Second, a white who said he or she *would not* consider moving into an attractive, affordable home should it be located in a

neighborhood with a single black household received the maximum score of 100, while someone who said they *were willing to enter* the majority-black neighborhood shown on card 5 got a score of zero. Note that high scores indicate a white rejection of residential integration, low scores an acceptance of it.

Table 1 presents information about the index of *white discomfort* with black neighbors and the measure of white unwillingness to enter integrated neighborhoods. The average score on this discomfort index fell from 47 to 40 between 1976 and 1992. This means that, on average, the first card to produce an "uncomfortable" response from whites in 1976 was the five-black-, 10-white-households neighborhood while, in 1992, it was the eight-black-, seven-white-households neighborhood. The willingness of whites to move into racially mixed neighborhoods changed in a similar manner, and all of these changes were significant.

Two primary determinants of racial attitudes among whites are their birth cohort and their educational attainment. Younger persons report more liberal attitudes than older ones and people who spent many years as students typically espouse different attitudes than those who did not complete high school. Table 1 classifies whites by five characteristics associated with racial attitudes. Younger whites said they were more comfortable with blacks on their block than did older whites, and they also reported more willingness to move into integrated neighborhoods. Educational attainment was strongly linked to attitudes about integration. On both of these measures, whites with college degrees were about one-half a standard deviation different from those who did not have a secondary school diploma.

We anticipated that family income would be related to these attitudes about residential integration in a fashion similar to education. Persons in prosperous families, we presumed, would be more tolerant of black neighbors since they possess the resources to move to a different neighborhood should that be desirable. But family income was not significantly linked to these attitudes. Gender differences were modest, but there is clear evidence that women, more than men, reported being comfortable with black neighbors.

For more than two decades, whites in the city of Detroit have lived in a majority-black municipality, although most of their close neighbors are whites. Many locations in the suburban ring have specific reputations with regard to racial integration. Dearborn and Livonia—just outside Detroit—have reputations for hostility toward blacks; Macomb County has a reputation for greater hostility toward blacks than does Oakland County. We hypothesized that individuals might be influenced by these reputations when they selected a suburban home and that living in particular locations would reinforce strongly held attitudes. However, we



TABLE 1  
ATTITUDES OF WHITES CONCERNING RACIAL RESIDENTIAL INTEGRATION,  
DETROIT AREA, 1976, 1992

CHARACTERISTICS OF RESPONDENTS	INDEX OF DISCOMFORT WITH BLACK NEIGHBORS <sup>a</sup>			INDEX OF UNWILLINGNESS TO MOVE INTO MIXED NEIGHBORHOODS <sup>b</sup>		
	1976	1992	Change	1976	1992	Change
Age:						
Under 35 years old.....	41 <sup>c</sup>	30 <sup>c</sup>	-11*	53 <sup>c</sup>	35 <sup>c</sup>	-18*
35-44 years old .....	47	34	-13*	56	41	-15*
45-54 years old .....	50	36	-14*	60	45	-15*
55-64 years old .....	50	45	-5*	65	56	-9*
65 and older .....	53	48	-5*	71	58	-13*
Educational attainment:						
Fewer than 12 years.....	51 <sup>c</sup>	46 <sup>c</sup>	-5*	64 <sup>c</sup>	54 <sup>c</sup>	-10*
12 years.....	51	41	-10*	64	50	-14*
13-15 years .....	39	36	-3*	51	42	-9*
16 or more years.....	38	29	-9	49	36	-13*
Family income (constant 1991 dollars):						
Not reported.....	53	44	-9*	65	49	-16*
Under \$20,000 .....	43	39	-4*	55	50	-5*
\$20,000-\$39,999 .....	45	35	-10*	57	43	-14*
\$40,000-\$59,999.....	49	38	-9*	61	43	-17*
\$60,000-\$79,999.....	46	38	-8*	61	45	-16*
\$80,000 or more .....	47	32	-15*	58	41	-17*
Gender:						
Men.....	50 <sup>d</sup>	39	-11*	61	44	-17*
Women .....	44	36	-8*	58	45	-13*
Place of residence:						
City of Detroit .....	44	33	-11*	61	45	-16*
Remainder of Wayne County .....	47	39	-8	59	46	-13*
Oakland County .....	46	35	-11*	58	44	-14*
Macomb County.....	51	40	-11*	61	42	-19*
Mean .....	47	40	-7*	59	45	-14*
SD .....	33	38		36	35	
N .....	706	723		706	723	

<sup>a</sup> Whites who said they would feel "very uncomfortable" should their neighborhood come to have one black and 14 white households score "100"; whites who said they would feel "very comfortable" should their neighborhood come to have eight black and seven white households score "0."

<sup>b</sup> Whites who said they "would not consider" moving into a neighborhood of one black and 14 white households score "100"; whites who said they "would consider" moving into a neighborhood of eight black and seven white residents score "0."

<sup>c</sup> The ANOVA model reports that residential integration scores differ among categories of this variable at the .01 level.

<sup>d</sup> The ANOVA model reports that residential integration scores differ among categories of this variable at the .05 level.

\*  $P < .01$ .

found that whites living in the four locations shown in table 1 did not differ significantly in their attitudes about residential integration. We were not surprised that, by 1992, whites in the city of Detroit expressed the greatest comfort with black neighbors. They are, of course, the residual of whites who remain in a largely black central city.

The shift toward more liberal attitudes was not restricted to particular groups of whites. Table 1 shows a widespread pattern of significant changes between 1976 and 1992. The trend toward more liberal white attitudes will likely continue as older whites and their limited educations are replaced by younger more extensively educated whites.

While these results tell us about the neighborhood preferences of whites, they do not tell us anything about what constitutes those attitudes. Why do whites prefer neighborhoods with a certain racial composition? Why do they say they would leave a neighborhood with a particular composition? To go beyond the information from forced-choice questions, we laced the survey with open-ended questions, thereby securing insight into how respondents understood or explained racial residential segregation. Respondents who indicated in the "would move out" questions that they would try to leave a racially mixed area—53% of all white respondents—were asked to explain why, in their own terms.

Regardless of which particular neighborhood a person indicated they would move out of, the most frequently mentioned reason was a concern about declining property values. Approximately 40% of respondents who said they would move out gave this as their reason. As one respondent put it: "I'd like to feel I'm not racist, but as a homeowner, I'd be concerned that my property value would go down. That seems to be what happens. It's not the African-American's fault, but the whites' reactions."

A respondent who would move out of a neighborhood with just one black family explained: "That would have a significant impact on the value of my property—which is the single biggest investment I have, and I wouldn't risk that." And a white who would move out if his neighborhood came to have five black families referred to "past experiences." When asked to explain, the respondent stated, "Values of houses go down when blacks move in. It's not right, but you have to go with what everybody else does. For Sale signs would pop up and I can't afford to lose on my house."

The second most common theme, mentioned by just under one in five respondents who would move out (or about 10% of all white respondents) was that the arrival of blacks would bring increases in crime, violence, and drug problems. They would move out, they said, because they feared for their safety. Two respondents who each stated they would move out of a neighborhood with three black families illustrate this theme: "Be-

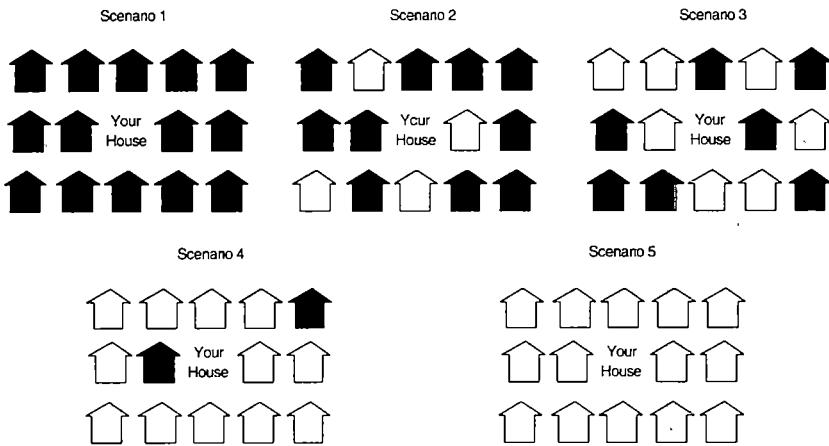


FIG. 4.—Neighborhood diagrams used for black respondents, DAS 1976 and 1992.

cause the neighborhood is turning black—I assume crime rates would rise.” And “When you get one black family, you get a whole bunch of them. A lot of drug addicts come in.”

Whites in our survey gave many reasons for wanting to move out of certain neighborhoods, but the two most common were beliefs that property values would fall, and, to a lesser degree, the perception that crime rates would rise in such areas. These explanations give a different meaning to Clark’s hypothesis that white and black preferences are the driving force behind residential segregation: the preferences do not reflect so much a desire to “live with my own kind” or to “be around people that are like myself” (a response given by fewer than 10% of respondents to this question) as they reflect a desire to maintain the property values and safety of their neighborhood.

## RACIAL RESIDENTIAL ATTITUDES OF BLACKS, 1976 AND 1992

### Living with Whites on the Block

Few, if any, Detroit neighborhoods went from black to white, so it was pointless to ask African-Americans if they would be upset by the arrival of whites in their neighborhoods; thus, the residential preference questions for blacks differ from those for whites. We showed blacks five diagrams of neighborhoods varying in composition from all-black to all-white, as illustrated in figure 4.

Blacks were asked to imagine that they were searching for a house and found a nice one they could afford. This home was designated at

the center of each neighborhood. They were then given the cards and asked to rank the neighborhoods from the one most attractive to them to the one least attractive.

When the residential preferences of Detroit blacks in 1976 and 1992 are compared, we find little change. Figure 5 shows the percentage of black respondents who rated each neighborhood as their first or second choice. Most African-Americans preferred areas that were racially mixed where there already was a substantial representation of blacks. The ideal neighborhood was one in which blacks comprised at least one-half the residents. Figure 5 illustrates that there have been statistically significant declines in the proportion of blacks who ranked the "3 black/12 white" or "8 black/7 white" neighborhood as their first or second choice and a significant increase in the percentage who highly rated the "11 black/4 white" area as the first or second choice. Shifts in the preferences of blacks were away from residential integration.

If the American apartheid system is to disappear, some blacks will move into largely or exclusively white neighborhoods. Are blacks willing to be the pioneers who change the racial composition of an area, or do they strongly prefer already integrated areas? We gave the cards to blacks, asked them to imagine that they had been searching for a home and had found an attractive one they could afford. It could be located in any of the areas shown on the cards ranging from all-black to all-white. We then asked them which neighborhoods they would be willing to enter.

There were no significant differences between 1976 and 1992 in the willingness of blacks to move where there already were black residents. Figure 5, however, shows that racially mixed neighborhoods are more popular with blacks than the all-black area. In 1976 31% of blacks said they *would not* enter an all black neighborhood; in 1992 that figure had declined to 25%.

In addition, most Detroit area blacks are reluctant to be the first of their race in a white neighborhood. Less than one-third of the 1992 respondents are willing to take this risk, a significant decrease from the 38% who were willing to move into an all-white area in 1976.

In order to understand the meaning of these percentages for blacks, we need to relate them to the similar percentages for whites. A careful comparison of the percentages of black and white respondents who would move into integrated neighborhoods reveals that opinions are asymmetrically distributed between the races across neighborhoods. In both 1976 and 1992, black respondents reject only the segregated alternatives. However, they are almost as willing to move into neighborhoods that reflect the overall racial composition of the Detroit metropolitan area (25% black, 75% white), as they are to move into neighborhoods that are more predominantly black (e.g., 50%–75% black). In other words,

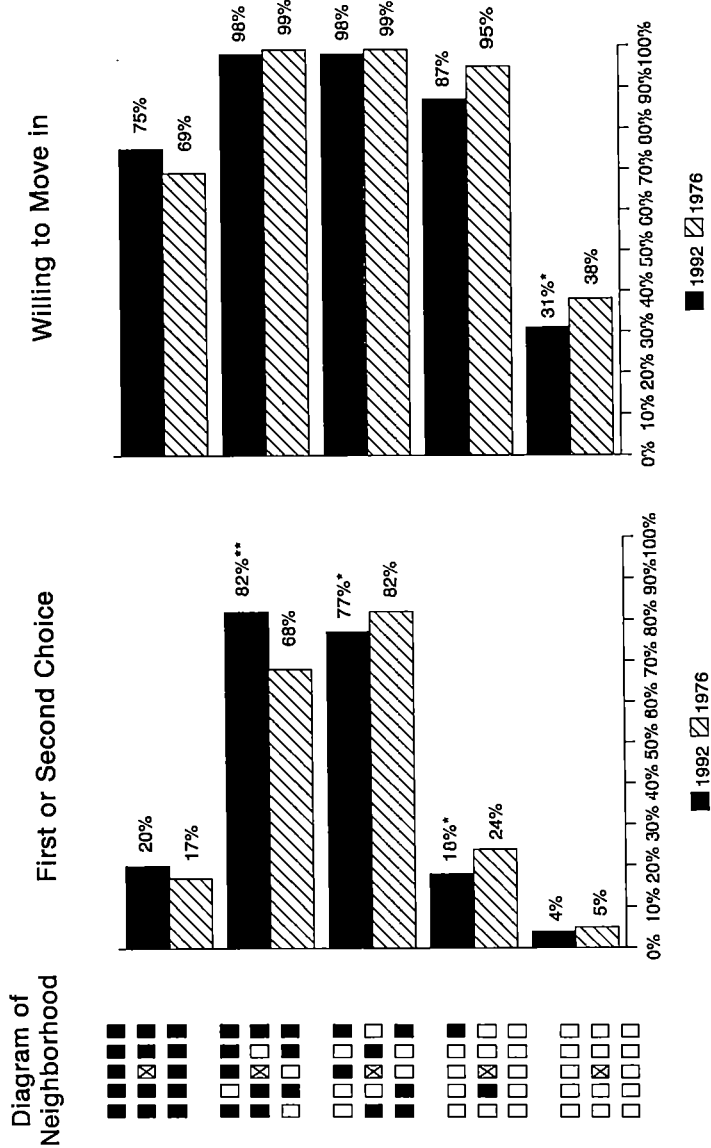


FIG. 5.—Attractiveness of neighborhoods of varying racial compositions for black respondents, DAS 1976 and 1992 (significance shown for change from 1976 to 1992; \* $P < .05$ ; \*\* $P < .01$ ; 1976  $N = 404$ ; 1992  $N = 750$ ).

TABLE 2  
RANGE OF NEIGHBORHOOD-COMPOSITION RESPONSES

TYPE OF NEIGHBORHOOD	% WILLING TO ENTER			
	Whites <sup>a</sup>		Blacks	
	1992	1976	1992	1976
All white.....	95	99	31*	38*
20% black.....	69*	50*	87	95
53% black.....	29*	16*	98	99
All black.....	0	0	75	69

<sup>a</sup> We have assumed 0% for all-black neighborhoods. In actuality, had we measured this alternative, we would expect to find a small percentage of whites willing to move to an all-black area.

\*  $P < .05$  for the difference between 1976 and 1992.

black willingness to move into a neighborhood does not increase monotonically with a rise in the percentage of black residents.

On the other hand, the responses of whites suggest that almost all would be willing to move to an all-white neighborhood and, we assume, they would reject becoming a white pioneer in one of Detroit's black neighborhoods. Thus, in both 1976 and 1992 white willingness to move to a neighborhood is quite monotonic with the degree of its whiteness. The percentages of each race who would be willing to live in neighborhoods with different racial compositions can be arrayed as shown in table 2.

The contrast between blacks and whites is unmistakable. At least *some* African-Americans (close to one-third) would be willing to move into the segregated white neighborhood even though almost *no* whites would choose an all-black area. Furthermore, the racial mix that mirrors the composition of the metropolitan region commands much more approval among blacks (87%) than it does among whites (69%), a difference that is highly significant ( $\chi^2 = 40.85$ ;  $P < .001$ ). While it is true that neither blacks nor whites want to live in areas that are occupied solely by members of the other race, it is also true that blacks are much less opposed to being among large numbers of whites than whites are to being among large numbers of blacks. These data, in and of themselves, cast considerable doubt on the proposition that racial residential segregation continues to exist because each race prefers to live where it is numerically dominant. Instead, the results suggest that this attitude has been more prevalent among whites in the past and may only now be gaining some ground among blacks, a possibility we consider below.

TABLE 3

ATTITUDES OF BLACKS CONCERNING RACIAL RESIDENTIAL INTEGRATION,  
DETROIT AREA, 1976, 1992

CHARACTERISTICS OF RESPONDENTS	INDEX OF NEIGHBORHOOD RACIAL PREFERENCE <sup>a</sup>			% WILLING TO ENTER AN ALL-WHITE NEIGHBORHOOD		
	1976	1992	Change	1976	1992	Change
<b>Age:</b>						
Under 35 years old .....	65	68	+3	39	21	-17**
35-44 years old.....	61	70	+9**	36	24	-12
45-54 years old.....	62	70	+8	38	26	-12
55-64 years old.....	61	67	+6	30	30	0
65 and older.....	60	67	+7	43	38	-5
<b>Educational attainment:</b>						
Fewer than 12 years .....	65	70	+5	35	25	-10**
12 years .....	61	70	+9**	37	31	-6
13-15 years.....	59	67	+8**	48	25	-23**
16 or more years .....	71	65	-6	17	24	+7
<b>Family income (constant 1991 dollars):</b>						
Not reported .....	60	71	+11*	37	28	-9
Under \$20,000 .....	65	69	+4	38	27	-11**
\$20,000-\$39,999 .....	63	67	+4	43	25	-18**
\$40,000-\$59,999 .....	60	73	+13**	33	29	-4
\$60,000 or more .....	64	59	-6	25	30	+5
<b>Gender:</b>						
Men .....	64	68	+4	33	30	-3
Women .....	62	69	+7**	39	26	-13**
<b>Place of residence:</b>						
City of Detroit .....	62	68	+5**	38	27	-11**
Suburban ring .....	67	68	+1	19	30	+11
Mean.....	63	68	+5**	38	31	-6*
SD .....	24	20		48	45	
N.....	379	750		379	750	

<sup>a</sup> Blacks who ranked an all-black neighborhood as their first residential preference score "100"; those who ranked an all-white neighborhood as their first residential preference score "0."

\*  $P < .05$ .

\*\*  $P < .01$ .

### How Widespread Were the Changes in Black Attitudes about Residential Integration?

Changes in the residential preferences of blacks were small, but they suggest a slight shift away from residential integration. We wished to investigate whether these changes typified all groups of blacks. Table 3 presents these findings.

We calculated a score indexing the preferences of blacks based upon

their ratings of the five neighborhoods. If a respondent ranked the all-black area first and then ranked the others in order of their blackness such that the all-white area was least attractive, he or she received the maximum score of 100. On the other hand, a black respondent who ranked the all-white neighborhood as their first choice, and then rated the others by their racial composition such that the all-black area was last, received the minimum score of zero. High scores on this index report a preference for black areas, while low scores were associated with a preference for residentially integrated neighborhoods. Table 3 shows these scores as well as the percentage of blacks—in 1976 and 1992—who said they were willing to move into an exclusively white neighborhood.

Overall, the score for blacks on this index of residential preference increased between 1976 and 1992 by five points. This change was consistent among blacks in all birth cohorts, at all educational or income levels, and among both black men and women. The shift in residential preferences away from integration characterizes all components of Detroit's black population except those at the highest income and educational levels. Blacks who graduated from college or whose family income exceeded \$60,000 (in 1991 dollars) favored residential more in 1992 than in 1976.

The percentage of blacks willing to pioneer in all-white neighborhoods fell significantly from 38% to 31%. A roughly similar change characterized all subgroups of the black population with the exception of those at the top of the educational or income distribution, who were more willing to pioneer in white neighborhoods in 1992. Blacks who graduated from college and who are now earning sizable incomes may frequently work with white peers and thus have the financial resources and social skills to live wherever they please. And they may be seen by their white neighbors as "acceptable" African-Americans. (See Feagin and Sikes [1994] for evidence of the discrimination and hostility these blacks endure, nevertheless; also see Cose 1993.)

The attitudes of Detroit-area whites and blacks changed in surprisingly different ways between 1976 and 1992: whites reported more liberal attitudes about neighborhood mixing, while blacks increasingly preferred largely black areas and were less willing to enter all-white ones.

As with our analysis of whites' residential preferences, our open-ended questions give us insight into why blacks hold the preferences they do. The interviewer pointed to the neighborhood the black respondent selected as his or her first choice and asked, "Could you tell me why you think that is the most attractive neighborhood?" Following Clark's argument that residential segregation persists because blacks prefer to live with blacks and whites with whites, we were interested in understanding why blacks hold such preferences, if, in fact, they do. We focus



on the extreme case—those 14% of the 750 black respondents whose first choice was the all-black neighborhood.

Among these respondents, nearly one-half mentioned that they “wanted to live with blacks,” they “had always lived with blacks,” or they “wanted to live with their own kind.” This response, however, is really just a restatement of their preference. The second most frequently mentioned reason provides more insight into why they hold this preference: nearly one-quarter of those who said they wanted to live in an all-black neighborhood indicated it was because they felt it was safer and more welcoming. For example, one respondent explained: “I’d rather live among my own people. . . . I feel more comfortable. . . . My people have told me how I would be treated living around all whites.” Another respondent illustrates a related sentiment: “Because white people are prejudiced against us. . . . If they don’t want me living in their neighborhood, then I don’t want to be there.”

Finally, another reason given for wanting to live in an all-black neighborhood was a desire to live around people with common interests and values and to be a part of a community. One respondent explained: “I love to live around black people because of a communality of values. I don’t have anything against living with whites either, but I prefer to live around blacks.”

While blacks’ residential preferences are complex and driven by a variety of forces, this analysis suggests one important factor underlying their preferences: many blacks feel that whites would not welcome them or that their lives would be less comfortable and perhaps endangered if they shared a neighborhood with whites.

It is difficult to assess the prevalence of these sentiments. Our data provide indirect evidence of this dynamic. When we asked all blacks to explain why residential segregation existed, they commonly reported that “whites don’t want to live around us.” Thus, it appears that part of blacks’ residential preferences can be attributed to the perceived hostility of whites toward blacks. In addition, recent analyses of in-depth interviews with several hundred middle-class, black professionals indicate that some African-Americans recognize fully the personal disadvantages of living in integrated settings. These interviews reveal as well the determination of some highly educated and articulate African-Americans to face uncomfortable and discriminatory situations and claim for themselves the accoutrements of success—a nice house, good schools, a desirable neighborhood (Feagin and Sikes 1994, chap. 6). The data in table 3 support this aspect of Feagin and Sikes’s portrait by showing that highly educated and prosperous African-Americans in the Detroit area, in contrast to others, have become more favorable to integration since 1976.

STEREOTYPES AND THEIR IMPLICATIONS FOR THE  
NEIGHBORHOOD PREFERENCES OF WHITES

The Massey and Denton (1993, chap. 4) explanation for continued segregation posits stereotypes as the key variable linking the preferences of whites to discriminatory real estate practices. Do whites hold negative stereotypes about blacks and, if so, do those stereotypes influence attitudes about being comfortable with blacks on the block or whites' willingness to move into integrated areas?

To measure the endorsement of stereotypes, we used questions developed elsewhere (Bobo and Kluegel, 1991; Bobo, Johnson and Oliver, 1992; Smith 1991) and first asked in the 1990 General Social Survey.

Detroit respondents—both black and white—were given a card showing a seven-point scale with a positive characteristic such as “tends to be intelligent” at one end and the opposite characteristic, such as “tends to be unintelligent,” at the other. Respondents were told to rank their own race and the other race on this scale. For example, assigning a score of “7” to a race meant the respondent felt they tended to be intelligent, while assigning a score of “1” meant the respondent thought the group tended to be unintelligent. The direction of the scale differed from item to item. The dimensions asked about in the 1992 DAS were

rich versus poor;  
tends to be intelligent versus tends to be unintelligent;  
prefers to be self-supporting versus prefers to live off welfare;  
tends to be hard to get along with versus tends to be easy to get along  
with;  
tends to speak English well versus tends to speak English poorly.

We began with the rich-poor dimension to introduce respondents to the task in an easy, nonthreatening manner. The census of 1990 found that 38% of Detroit-area black households had incomes below the poverty line compared to 8% of whites. If having an income exceeding five times the poverty line qualifies a household as “secure,” then 15% of blacks and 34% of whites were secure according to the decennial enumeration (U.S. Bureau of the Census 1993).

To assess stereotypes, we asked about “tendencies,” “preferences,” and subjective judgments. To be sure, blacks are less extensively educated than whites: the census of 1990 reported that 17% of Detroit-area blacks over age 24 completed college compared to 25% of whites. And blacks—more so than whites—obtained payments from the welfare system. In 1989, 21% of black households, in contrast to 4% of white households, received such benefits (U.S. Bureau of the Census 1993). But the stereotype questions did not focus on these objective matters; rather they asked whites their evaluations of both races with regard to economic

status, self-support, intelligence, the speaking of English, and how difficult or easy it is to get along with the group.

We were not surprised to find that an analysis of reliability involving the five dimensions found that the "rich and poor" answers did not correlate highly with those concerning the other four items. The question about financial status is a factual one and should not, we believe, enter into the development of a stereotype score.<sup>4</sup> (A ranking of white responses to all five dimensions is given in appendix table A1.)

Given the opportunity, we presume that most people would select neighbors whom they deem intelligent, self-supporting, easy to get along with and, especially if they have children, proficient speakers of English, since this will facilitate learning in the schools. Although some whites consistently rank blacks alongside whites, *most* whites believe that blacks tend to be less intelligent than whites, prefer more than whites to live off welfare, tend to be more difficult to get along with, and speak English much more poorly than whites.

Figure 6 presents the scores whites gave to the two races, the scale having been altered so that "7" is the most positive, "4" neutral, and "1" the most negative. Whites saw the largest gaps with regard to a preference for self-support and the ability to speak English, while they view the racial discrepancy as small with regard to getting along with blacks. Fifty-six percent of whites ranked whites ahead of blacks in intelligence, 71% ranked whites higher with regard to self-support, and more than three-quarters said that whites spoke English better than blacks.

To derive a stereotype index for whites, we subtracted the score they gave blacks from the score they assigned to whites on each dimension, summed them, and adjusted the result so that it had a 100-point range. A white who placed whites at the top of every dimension and blacks at the bottom got the maximum stereotype score of 50, while whites who ranked whites and blacks the same, got a score of zero. Eighty-five of the 691 whites—or 12%—received this value, while 20 whites rated blacks, on average, higher than whites, so they got negative scores on this index.

Table 4 reports the average white stereotype score was +10, implying that, on average, whites ranked blacks about one point below whites on each of the four dimensions. It also shows the relationship of five

<sup>4</sup> The four items concerning evaluations of blacks and whites with regard to "tends to be intelligent vs. tends to be unintelligent," "prefers to be self-supporting vs. prefers to live off welfare," "tends to be hard to get along with vs. tends to be easy to get along with," and "tends to speak English well vs. tends to speak English poorly" were used to produce a stereotype index. Cronbach's  $\alpha$  for this scale is +.64.

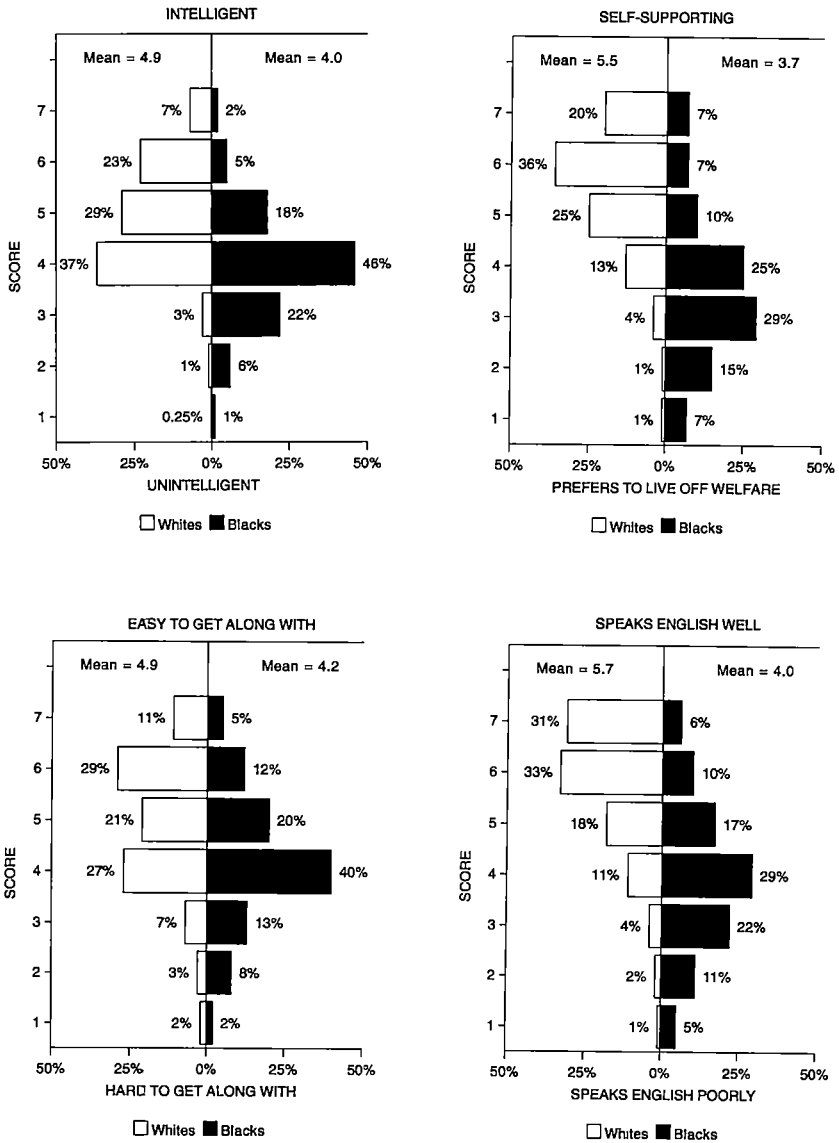


FIG. 6.—Whites' ratings of blacks with regard to the four components of the stereotype index.

TABLE 4  
STEREOTYPE INDEX SCORES FOR WHITE RESPONDENTS,  
DETROIT AREA, 1992

Characteristics of Respondents	Stereotype Index Score <sup>a</sup>
Age:	
Under 35 years old.....	9 <sup>b</sup>
35-44 years old.....	10
45-54 years old.....	10
55-64 years old.....	11
65 and older.....	13
Educational attainment:	
Fewer than 12 years.....	11 <sup>b</sup>
12 years.....	12
13-15 years.....	11
16 or more years.....	7
Family income (constant 1991 dollars):	
Not reported.....	9
Under \$20,000.....	12
\$20,000-\$39,999.....	11
\$40,000-\$59,999.....	10
\$60,000-\$79,999.....	10
\$80,000 or more.....	9
Gender:	
Men.....	11
Women.....	10
Place of residence:	
City of Detroit.....	10
Remainder of Wayne County.....	11
Oakland County.....	10
Macomb County.....	11
Mean.....	10
SD.....	9
N.....	683

<sup>a</sup> The stereotype index has a 100-point range (+50 - -50). Respondents were given a seven-point scale and asked to rate blacks and whites with regard to four characteristics:

tends to be unintelligent *vs.* tends to be intelligent;  
prefers to be self-supporting *vs.* prefers to live off welfare;  
tends to be hard to get along with *vs.* tends to be easy to get along with;  
tends to speak English well *vs.* tends to speak English poorly.

The score a white respondent gave to blacks was subtracted from the score he or she gave to whites. If respondent gave the maximum difference between blacks and whites on each of the four dimensions he or she received the maximum stereotype score of +50. If, on average, a respondent rated blacks and whites the same on these dimensions, his or her score was 0. A respondent who consistently rated blacks at the top of each scale and whites at the bottom received the minimum stereotype score of -50.

<sup>b</sup> A one-way ANOVA model reports that the mean values of the stereotype scores differ by categories of this variable at the .01 level.

demographic factors to these stereotype scores. Age and educational attainment were strongly linked to the endorsement of these traditional stereotypes. Women had insignificantly lower scores than men, and neither family income nor place of residence within the Detroit metropolis was significantly related to stereotype use.

A multivariate model assessed the independent effects of demographic variables shown in table 4 upon the stereotype index. Two whites, similar in other characteristics, who differed by 20 years in age, differed by about 1.5 points on the stereotype score (mean = 10; SD = 9). Four additional years of schooling—net of other variables—reduced the stereotype scores of whites by just under three points, but family income, gender, and place of residence had no statistically significant impact.

#### STEREOTYPES AND THE NEIGHBORHOOD PREFERENCES OF WHITES

Are negative stereotypes a key variable accounting for the persistence of segregation? Detroit-area whites say they are increasingly comfortable with blacks on their block, are less likely to flee when blacks move in, and claim to be more willing to buy homes in integrated neighborhoods. And when asked about the *principle* of equal opportunities in the housing market, 85% of the 1992 white sample rejected the idea that "white people have a right to keep black people out of their neighborhood if they want to and black people should respect that right." Yet when asked the stereotype items, 85% of whites ranked blacks below whites.

To assess the consequences of stereotypes, three racial neighborhood indexes, calculated from the responses of whites, were treated as dependent variables. We sought to explain them, first with demographic variables and then with the stereotype index to determine if it altered our findings. Many would contend that white aversion to living with blacks is based primarily on economics, not race. We took this into account by using the responses of whites to the item asking them to rank both races on the rich versus poor scale. Eighty-three percent rated whites as the more prosperous race. If the reluctance to live with blacks is rooted in economics, this variable, rather than the stereotype index, should explain whites' racial attitudes.

We described two of the dependent variables in table 5 previously: the index of discomfort with black neighbors and the index of unwillingness to move into mixed neighborhoods. We also computed an index of white flight, with high scores going to whites who said they would move away from areas with only one black household and low scores to those who would remain in majority-black neighborhoods.

Considering the demographic variables, table 5 shows that birth cohort

TABLE 5

## DETERMINANTS OF WHITE ATTITUDES ABOUT RACIAL RESIDENTIAL INTEGRATION, DETROIT AREA, 1992

	INDEX OF DISCOMFORT WITH BLACK NEIGHBORS		INDEX OF WHITE FLIGHT		INDEX OF UNWILLINGNESS TO MOVE INTO MIXED NEIGHBORHOODS	
	A	B	A	B	A	B
Intercept.....	39.1	22.3	32.5	17.6	42.9	28.9
Age in years.....	+ .4**	+ .3**	+ .3**	+ .2*	+ .5**	+ .4**
Education in years.....	- 2.1**	- 1.3*	- 2.1**	- 1.3*	- 2.1**	- 1.4*
Family income (constant 1991 dollars): <sup>a</sup>						
\$20,000-\$39,999.....	+ 4.3	+ 4.4	+ 5.6	+ 5.7	+ 3.0	+ 3.1
\$40,000-\$59,999.....	+ 7.2	+ 8.4	+ 8.8*	+ 9.5	+ 6.3	+ 7.0
\$60,000-\$79,999.....	+ 9.0	+ 9.2	+ 13.2**	+ 13.3**	+ 10.0	+ 10.1
\$80,000 or more.....	+ 3.4	+ 5.3	+ 3.8	+ 5.5	+ 4.4	+ 6.1
Gender <sup>a</sup> .....	- 3.9	- 3.1	- 4.9	- 4.2	+ .1	+ .7
Place of residence: <sup>a</sup>						
Remainder of Wayne County.....	+ 4.6	+ 3.3	+ 2.3	+ 1.2	+ .4	- .7
Oakland County.....	+ 1.8	+ 1.4	- .6	- 1.0	- 1.7	- 2.0
Macomb County.....	+ 4.2	+ 3.8	+ 2.0	+ 1.7	- 5.2	- 5.5
Perception of racial difference in economic status.....	+ 1.8	- .2	+ 2.1*	+ .4	+ 2.2*	+ .5
Stereotype index score.....		+ 1.2** <sup>b</sup>		+ 1.1 <sup>b</sup> <sup>b</sup>		+ 1.0 <sup>b</sup> <sup>b</sup>
Adjusted R <sup>2</sup> .....	.06	.18	.05	.16	.08	.14
Mean of dependent variable.....		36.9		24.6		44.1
SD of dependent variable.....		31.5		29.4		34.1

NOTE.—"A" indicates model excluding stereotype index; "B" indicates model including stereotype index.

<sup>a</sup> The omitted categories for these series of dichotomous variables are "Under \$20,000" for family income, "Men" for gender, and "City of Detroit" for place of residence. Persons not reporting income were placed in modal response category.\*  $P < .05$ .\*\*  $P < .01$ .SOURCE.—Detroit Area Study, 1992.  $N = 671$ .

and educational attainment were consistently significant since young and extensively educated whites accepted residential integration more than older or less educated whites. Recall that high scores on the dependent variables indicate opposition to racial integration. Suburban residents expressed more conservative attitudes than did those whites remaining in largely black Detroit, and women were also more willing than men to accept racial mixing on their blocks. Income had few significant net effects but those toward the middle of the income distribution were more likely to say they would try to leave when blacks moved into their neighborhoods than whites at the top or bottom of the income distribution, perhaps reflecting their anxiety about property values.

When models including the stereotype index (table 5, col. B) are contrasted to those without it (table 5, col. A), we find strong support for the hypothesis that whites who endorsed negative stereotypes were more uncomfortable with black neighbors, would try to move away from lower proportions of blacks in neighborhoods, and were less willing to move into mixed areas. A 10-point difference on the stereotype score in 1992—about one standard deviation unit—led to a net 13-point difference on the index of discomfort with blacks on the block, a net 12-point difference with regard to white flight, and a 10-point difference on the index assessing white unwillingness to move into already integrated neighborhoods. The effects of education and birth cohort remained significant when the stereotypes measured were used, revealing that endorsing stereotypes has an effect on important racial attitudes apart from the respondents' age and schooling. In all comparisons in table 5, the explained variance doubled or tripled when stereotypes were used to explain white attitudes about racial integration.

These models also demonstrate that white attitudes about integration are not rooted in economic class factors. That is, whites who view the racial gap in economic status as large said they were more likely to leave and less likely to enter mixed areas than whites who saw a small racial gap. But when the stereotype index was entered, the significant effect of the class measure disappeared.

The educational attainment and age of whites play a role in explaining their attitudes about residential integration, but another important factor is their endorsement of negative stereotypes. That is, many whites endorse stereotypes about blacks, and increases in that endorsement are linked to an aversion to living with blacks.

#### STEREOTYPES AND PREFERENCES IN OPEN-ENDED QUESTIONS

The above analysis demonstrates the strong statistical relationship between holding negative evaluations about blacks as a group and a prefer-



ence for not living in integrated neighborhoods. Again drawing on responses to open-ended questions, we are able to get some idea of the way in which stereotypes enter into residential preferences. We asked respondents to explain, in their own words, why blacks and whites lived in different areas in the Detroit metropolitan area. In their responses, some whites illustrate how stereotypes about blacks shape residential preferences in much the way Massey and Denton hypothesized and as is implied in our regression models. However, it is important to note that because this open-ended question did not ask directly about stereotypes, we use its results not to address the prevalence of stereotypes of blacks among whites, but as an illustration of the mechanisms by which these stereotypes may determine preferences about living in integrated neighborhoods. The stereotypes that emerged in response to this question range from specific beliefs about blacks as bad neighbors (e.g., they let their property run down) to more general beliefs about the behavior of blacks (e.g., they are prone to criminal behavior or they lack the motivation to work).

Following are direct quotes taken from whites in our 1992 study. We stress that these selections are illustrative and are not meant to be representative of all responses given to this question.

Why do I think it happens? I think blacks, a lot of them, don't keep up their homes. They tend to hang out on street corners instead of in school where they belong. More drugs, alcohol problems. Whites don't want to be around them.

Because they are different. The two races have different ideas as to their responsibilities to a neighbor. [Tell me more]. A "black neighborhood" vs. a "white neighborhood" is dirtier, less maintained, more inclined to be abused by the residents—throw garbage out the back door and kicking the windows out.

The answers to our question about why a person would move out of a particular neighborhood help us see how, in some cases, whites' stereotypes about blacks as bad neighbors form the basis for their belief that property values would decline in an integrated neighborhood. For example, one respondent explaining why she would try to move away if her neighborhood came to have three black residents said: "It seems like that property values drop when black families move in because they do not keep up their houses." A 31-year-old white woman put it this way: "The niggers, I shouldn't say that, they tend to not take care of where they live. It is a fact. It turns into a crack house. [Anything else?] I don't want to be that close to that kind of people. Run down neighborhoods with their lack of consideration for human people."

Finally, in other cases, explanations for residential segregation invoke

more general negative stereotypes about blacks: "Because I think that the majority aren't enthused, not motivated, and don't care. I know what I want to say. The opportunity is there if they want to take advantage. I don't think most blacks want to work for anything."

## CONCLUSION

Debates about causes of continued residential segregation point to (a) discriminatory practices by real estate brokers and lenders and (b) the divergent neighborhood preferences of blacks and whites. These are not conflicting explanations. Rather, the actions of real estate brokers and bankers reflect, to some degree, their own views and their perceptions of what their clients want. If there is consensus that both blacks and whites wish to live in segregated neighborhoods, homes and apartments will likely be marketed to perpetuate the presumed values of customers.

We examined how the neighborhood preferences of Detroit-area residents changed since 1976 and what led to such preferences. We measured the direct impact of racial stereotypes on the preferences of whites. The results show a link between whites' racial attitudes and their residential preferences, but it is a complicated one. Whites' attitudes about neighborhood integration became significantly more liberal over the recent past, as reflected in their increasing reports that they would be comfortable in mixed neighborhoods and would remain should modest numbers of blacks come to their area. When we asked whites who said they would try to move away when blacks came about their motivation for flight, the majority *did not* invoke racial stereotypes.

Still, the overall aversion toward living among blacks remains strong, and a substantial minority of whites mention stereotypes when asked direct questions about living with blacks on their block. The more integrated the neighborhood, the fewer the whites who would remain. And, although almost all whites say they would move into a minimally integrated neighborhood, less than half express a willingness to move into neighborhoods with more than a token representation of African-Americans.

Black preferences for mixed neighborhoods have weakened. As was the case 16 years ago, the majority of blacks prefer neighborhoods that are more than minimally integrated. However, black preferences for integrated neighborhoods—in contrast to those of whites—declined except among the black elite. Whether this trend is attributable to an increasing ideological commitment to develop and live in largely black communities, to growing apprehensions about white hostility, or to the belief that integration offers few benefits is unclear.

This study addressed the relationship between whites' use of negative

stereotypes and their attitudes about living among blacks. Our evidence supports Massey and Denton's (1993, chap. 4) position that stereotypes contribute to the persistence of residential segregation, since whites who endorse negative stereotypes were more likely to say they would flee integrated neighborhoods and were less likely to consider moving into them. In addition, qualitative analyses of reasons given for moving out of integrated neighborhoods indicate that whites are concerned about decreasing property values and increasing crime with the arrival of blacks. These may be guided to some extent by their stereotypical perceptions of African-Americans. However, demographic and economic trends play a role in shaping such attitudes. The population of the city of Detroit went from 45% black in 1970 to 76% in 1990, while the average value of a single-family home (in constant 1989 dollars) fell from \$49,000 to \$26,000 (U. S. Bureau of the Census 1972, table 10; 1982, table 49; 1992, table 51).

If the liberal shift in white attitudes is genuine and continues, cohort replacement and the continuing trend toward greater educational attainment assure a further liberalization of white racial attitudes and, we hope, attitudes about living in integrated neighborhoods. But it is unrealistic to expect that the slow process of cohort replacement will be sufficient to stem the tide of residential segregation in a metropolis as riven by race as Detroit. Indeed, even if there were no steering and no racial discrimination in the marketing of housing, segregation would likely persist at high levels. The "Chocolate City, Vanilla Suburbs" (see Malbix/Ricks 1976) pattern sung about two decades ago on soul music stations is alive and well in Detroit. If residential integration is to be achieved in Detroit, programs to encourage it will have to be implemented and strongly encouraged. Real estate brokers need to be aware of the liberalization of white attitudes and of the apparent willingness of most of their potential black clients to live in mixed neighborhoods, including overwhelmingly white ones. Homeowners need to be assured that neighborhood services and the flow of credit will be maintained should their area become integrated. A variety of successful prointegration strategies have been effective for several decades in Shaker Heights (near Cleveland), Oak Park (near Chicago), and many other areas (DeMarco and Galster 1993; Saltman 1990). These include community efforts to prevent white flight and welcome members of the minority race, programs to protect against sharp falls in property values and slight discounts in interest rates for first-time home buyers who purchase in a neighborhood where they are the racial minority. Federal housing agencies, lending institutions, and the real estate industry may be able to capitalize on both the liberalization of white attitudes and the willingness of most blacks to live in mixed areas.

## APPENDIX

TABLE A1  
RELATIVE RANKINGS OF BLACKS GIVEN BY DETROIT-AREA WHITES, 1992

	DIMENSIONS OF STEREOTYPE INDEX				
	1	2	3	4	5
Ranked whites higher than blacks:					
4 points or more .....	6	4	18	6	15
3 points.....	17	8	17	7	14
2 points.....	35	18	19	13	22
1 point.....	25	26	17	20	26
Ranked whites and blacks equal...	12	38	26	45	18
Ranked blacks higher than whites:					
1 point.....	2	3	1	5	3
2 points.....	2	2	1	2	1
3 points or more .....	1	1	1	2	1
Total .....	100	100	100	100	100

NOTE.—The five dimensions are (1) rich vs. poor; (2) tends to be intelligent vs. tends to be unintelligent; (3) prefers self-support to welfare; (4) tends to be easy to get along with vs. tends to be hard to get along with; (5) tends to speak English well vs. tends to speak English poorly. White respondents ranked whites and blacks on these five dimensions using a seven-point scale. This table reports—in %—the differences between the ranking whites gave to whites and the ranking whites gave to blacks.  $N = 737$ .

## REFERENCES

- Bobo, Lawrence, James H. Johnson, and Melvin L. Oliver. 1992. "Stereotyping and the Multicity Survey: Notes on Measurement, Determinants and Effects." Occasional Working Papers, vol. 2, no. 8 (July). UCLA Center for the Study of Urban Poverty.
- Bobo, Lawrence, and James R. Kluegel. 1991. "Modern American Prejudice: Stereotypes, Social Distance, and Perceptions of Discrimination toward Blacks, Hispanics and Asians." Paper presented at the annual meeting of the American Sociological Association, Cincinnati, August 23–27.
- Bradbury, Katharine L., Karl E. Case, and Constance R. Dunham. 1989. "Geographic Patterns of Mortgage Lending in Boston: 1982–87." *New England Economic Review* (September/October): 3–30.
- Carr, James H., and Isaac F. Megbolugbe. 1993. "The Federal Reserve Bank of Boston Study of Mortgage Lending Revisited." *Journal of Housing Research* 4 (2): 277–313.
- Clark, William A. V. 1986. "Residential Segregation in American Cities." *Population Research and Policy Review* 5:95–127.
- . 1988. "Understanding Residential Segregation in American Cities: Interpreting the Evidence (Reply to Galster)." *Population Research and Policy Review* 7:113–21.
- . 1989. "Residential Segregation in American Cities: Common Ground and Differences in Interpretation." *Population Research and Policy Review* 8:193–97.

- . 1991. "Residential Preferences and Neighborhood Racial Segregation: A Test of the Schelling Segregation Model." *Demography* 28 (1): 1–19.
- Cose, Ellis. 1993. *The Rage of a Privileged Class*. New York: Harper Collins.
- DeMarco, Donald L., and George C. Galster. 1993. "Prointegrative Policy: Theory and Practice." *Journal of Urban Affairs* 15 (2): 141–60.
- Denton, Nancy A., and Douglas S. Massey. 1988. "Residential Segregation of Blacks, Hispanics and Asians by Socioeconomic Status and Generation." *Social Science Quarterly* 69:797–817.
- Farley, Reynolds. 1977. "Residential Segregation in Urbanized Areas of the United States in 1970: An Analysis of Social Class and Racial Differences." *Demography* 14 (November): 497–518.
- Farley, Reynolds, and William H. Frey. 1994. "Changes in the Segregation of Whites from Blacks during the 1980s: Small Steps toward a More Racially Integrated Sociology." *American Sociological Review* 59 (1): 23–45.
- Farley, Reynolds, Howard Schuman, Suzanne Bianchi, Diane Colasanto, and Shirley Hatchett. 1978. "Chocolate City, Vanilla Suburbs: Will the Trend toward Racially Separate Communities Continue?" *Social Science Research* 7 (December): 319–44.
- Feagin, Joe R., and Melvin P. Sikes. 1994. *Living with Racism: The Black Middle-Class Experience*. Boston: Beacon Press.
- Frey, William H., and Reynolds Farley. 1993. "Latino, Asian and Black Segregation in Multi-ethnic Metro Areas: Findings from the 1990 Census." University of Michigan, Population Studies Center, Research Report no. 93-278. Presented at the 1993 meeting of the Population Association of America, Cincinnati, April.
- Galster, George. 1986. "More than Skin Deep: The Effect of Discrimination on the Extent and Pattern of Racial Residential Segregation." In *Housing Desegregation and Federal Policy*, edited by John Goering. Chapel Hill: University of North Carolina Press.
- . 1988. "Residential Segregation in American Cities: A Contrary Review." *Population Research and Policy Review* 7:93–112.
- . 1990. "Racial Steering by Real Estate Agents: Mechanisms and Motivation." *Review of Black Political Economy* 19:39–63.
- . 1992. "Research on Discrimination in Housing and Mortgage Markets: Assessment and Further Directions." *Housing Policy Debate* 3 (2): 639–83.
- Galster, George, and Mark Kenney. 1988. "Race Residence, Discrimination and Economic Opportunity." *Urban Affairs Quarterly* 14:87–117.
- Hirsch, Arnold R. 1983. *Making the Second Ghetto: Race and Housing in Chicago*. New York: Cambridge University Press.
- Jackson, Kenneth T. 1985. *Crabgrass Frontier: The Suburbanization of the United States*. New York: Oxford University Press.
- Malbix/Ricks Music, BMI. 1976. *Chocolate City*. Casablanca Records.
- Massey, Douglas S., and Nancy A. Denton. 1989. "Hypersegregation in U. S. Metropolitan Areas: Black and Hispanic Segregation along Five Dimensions." *Demography* 26:373–92.
- . 1993. *American Apartheid: Segregation and the Making of the Underclass*. Cambridge, Mass.: Harvard University Press.
- Mayer, Albert. 1960. "Russell Woods: Change without Conflict: A Case Study of Neighborhood Transition in Detroit." In *Studies in Housing and Minority Groups*, edited by Nathan Glazer and David McEntire. Berkeley: University of California Press.
- Munnell, Alicia H., Lynn E. Browne, James McEneaney, and Geoffrey M. B. Tootel. 1992. "Mortgage Lending in Boston: Interpreting HMDA Data." Working Paper 92-7. Boston: Federal Reserve Bank of Boston.

- Muth, Richard. 1969. *Cities and Housing*. Chicago: University of Chicago Press.
- . 1986. "The Causes of Housing Segregation." In *Issues in Housing Discrimination*, U.S. Commission on Civil Rights. Washington, D. C.: Government Printing Office.
- Pearce, Diana. 1979. "Gatekeepers and Homeseekers: Institutionalized Patterns in Racial Steering." *Social Problems* 26 (February): 325–42.
- Saltman, Juliet. 1990. *A Fragile Movement: The Struggle for Neighborhood Stabilization*. New York: Greenwood Press.
- Schuman, Howard, Charlotte Steeh, and Lawrence Bobo. 1985. *Racial Attitudes in America: Trends and Interpretation*. Cambridge, Mass.: Harvard University Press.
- Smith, Tom W. 1991. "Ethnic Images." GSS Technical Report no. 19. Chicago: National Opinion Research Center, January.
- Taeuber, Karl E. 1965. "The Effect of Income Redistribution on Racial Residential Segregation." *Urban Affairs Quarterly* 4:5–14.
- Taeuber, Karl E., and Alma F. Taeuber. 1965. *Negroes in Cities: Residential Segregation and Neighborhood Change*. Chicago: Aldine.
- Turner, Margery Austin, Raymond L. Struyk, and John Yinger. 1991. *Housing Discrimination Study: Synthesis*. Washington, D.C.: Department of Housing and Urban Development.
- U.S. Bureau of the Census. 1952. *Census of Population: 1950*, vol. 2, pt. 22. Washington, D.C.: Government Printing Office.
- . 1972. *Census of Housing: 1970*, vol. 1, pt. 24. Washington, D.C.: Government Printing Office.
- . 1982. *Census of Housing: 1980*, HC80-1-A24. Washington, D.C.: Government Printing Office.
- . 1991. *Census of Population and Housing: 1990*, CPH-1-24. Washington, D.C.: Government Printing Office.
- . 1992. *Census of Housing: 1990*, CH-1-24. Washington, D.C.: Government Printing Office.
- . 1993. *Census of Population and Housing: 1990*, Public Use Microdata Sample. Washington, D.C.: Government Printing Office.
- Wilson, William Julius. 1978. *The Declining Significance of Race: Blacks and Changing American Institutions*. Chicago: University of Chicago Press.
- Yinger, John. 1986. "Measuring Racial Discrimination with Fair Housing Audits: Caught in the Act." *American Economic Review* 76, no. 5 (December): 881–93.
- . 1991. *Housing Discrimination Study: Incidence and Variation in Discriminatory Behavior*. Washington, D.C.: Department of Housing and Urban Development, Office of Policy Development and Research.

# Organizing the Boys of Summer: The Evolution of U.S. Minor-League Baseball, 1883–1990<sup>1</sup>

Kenneth C. Land  
*Duke University*

Walter R. Davis and Judith R. Blau  
*University of North Carolina at Chapel Hill*

The authors use life-history data to analyze the organizational evolution of U.S. minor-league baseball. The article introduces the concept of “structural mutualism” to account for the structural effects of required league membership on team foundings and deaths. This term refers to cooperative behavior that occurs among the teams within a league, that benefits each team, and that league membership promotes. Net of conventional density-dependence and population-dynamics mechanisms, strong evidence is found that structured mutualism affects team foundings and deaths. When structured mutualism is conceived of as variable, the concept may have more general applicability to other sets of membership organizations.

While baseball clubs [in the late 1800s] were competitors in the search for players and on the ballfield, they also had a mutual interest in making the game as a whole into a stable, profitable enterprise. . . . After all, they were in the business of selling first-rate competition. If the competitors disappeared, so did the business. [Warren Goldstein, *Playing for Keeps: A History of Early Baseball*]

Baseball has long occupied a special place in the social and cultural life of the United States. From a simple pastime played by boys in colonial America, baseball evolved in the 19th century into an amateur sport of

<sup>1</sup> The research reported here was supported, in part, by National Science Foundation Grant SES-9108923; results and interpretation are solely the responsibility of the authors. We gratefully acknowledge the Baseball Hall of Fame in Cooperstown, New York, for providing copies of early baseball guides and for other assistance with historical matters. We thank Pam Irwin, Andrey Lukashov, and Mark Marlowe for collecting and coding the data. William P. Barnett, Heather A. Haveman, and the *AJS* reviewers provided helpful comments on earlier drafts of the manuscript. Direct

gentlemen and then into a commercialized spectator amusement operated by promoters and played by professionals (Seymour 1960).<sup>2</sup> Despite periodic crises, in the 20th century the baseball industry consolidated and expanded its position in U.S. social life (Seymour 1971). Since the late 19th century, professional baseball also has been promoted as a cultural symbol and characterized as the U.S. national game. Professional baseball players became exemplars for others and have been lionized as the "boys of summer" (Kahn 1972).

While major-league baseball always has received primary national interest, an important part of the historical development of professional baseball in the United States was the evolution of minor-league baseball leagues and teams. These began to flourish soon after the major leagues were established and grew to function as talent suppliers for the majors (Voigt 1987, p. 88). Numerous historical accounts and much documentation of the development of minor-league baseball have become available in recent decades, but the topic has not yet been viewed from the perspective of population-organizational evolution. Applying this theoretical framework, our analysis reveals similarities as well as dissimilarities (of founding and disbanding processes in minor-league baseball) to those processes that have been found to prevail in other organizational populations.

We proceed as follows: First, we briefly chronicle the major events in the historical development of minor-league baseball teams and leagues in the United States—from their first organized appearance in 1883 to the present. Second, we review recent theoretical and empirical contributions to the development of density-dependence and population-dynamics models for foundings (births) and disbandings (failings, deaths) in populations of organizations. Third, we describe the peculiar structural features of minor-league baseball, especially the necessity for having other teams to play within a league, and how the mutualism created thereby can be incorporated into the conventional combined density-dependence/population-dynamics model. Fourth, we assess the ability of such models to account for the organizational evolution—both foundings and disbandings—of the populations of minor leagues and their teams. A final section discusses our findings and their implications both for accounts of the evolution of minor-league baseball and for the density-dependence/population-dynamics model of organizational evolution.

---

all correspondence to Kenneth C. Land, Department of Sociology, Duke University, Durham, North Carolina 27708-0088.

<sup>2</sup> Seymour (1960, p. 5) cites the English game of "rounders" as a direct ancestor of colonial "base" or "baste ball" in contrast to the myth that baseball was created by General Abner Doubleday at Cooperstown, New York, in 1839.



UPS AND DOWNS IN NUMBERS OF TEAMS AND LEAGUES,  
1883–1990

Because many readers will be unfamiliar with the organizational history of minor-league baseball in the United States, we commence with a sketch of the evolution of this population of organizations. This sketch will provide a descriptive backdrop against which we will formulate and evaluate formal statistical models of foundings and disbandings of teams and leagues.

The early history of baseball was volatile, with clubs and leagues springing up one year only to disappear by the next, players jumping from team to team, games frequently canceled at the last minute, and rules changing from year to year. These earliest clubs and leagues were primarily associations of baseball players rather than business organizations. The National League, formed in 1876, was the first formal organization of baseball teams as businesses with the players being strictly employees (Seymour 1960; Sullivan 1990).

From its inception, the National League (NL) portrayed its teams as superior to those of other leagues. As early as 1877, the NL sought to have other leagues ally themselves (in a subordinate position) with the NL, but this effect met with little success. By 1883, however, to relieve competition with the recently formed American Association (AA, which later was absorbed by the NL), the NL, the AA, and the Northwestern League constructed the Tripartite Agreement. In this agreement, they promised to respect each other's player contracts and territorial rights.<sup>3</sup> This agreement also conceded major-league status to the AA and a slightly lower status to the Northwestern League—the first historical distinction between major and minor leagues. Although this and later versions of the agreement were frequently violated, professional baseball has had such an agreement ever since (Sullivan 1990). Consequently, 1883 can be viewed as the date of origin of organized minor-league baseball in the United States; the concept of “minor” league baseball was not socially constructed (i.e., as having legal and organizational status) before 1883.

The Tripartite Agreement was the first of many such agreements between the major and minor leagues that defined the boundaries of what baseball historians call “organized baseball.” Leagues that did not participate in this or succeeding agreements are not considered part of organized baseball. For the analyses reported in this paper, we include all minor leagues and their teams in the continental United States that are

<sup>3</sup> This alliance should not be confused with a farm system, which begins much later. These minor-league clubs were not affiliates of specific major-league clubs. Rather, by allying with the NL and AA, the minor leagues avoided, theoretically, being raided by the majors for their players. Teams not part of the alliance were fair game for player recruitment.

known to have participated in organized baseball. This definition excludes leagues that operated outside any national agreement. Accordingly, our data do not include "outlaw" leagues (minor leagues that refused to recognize the territorial or player rights of teams in organized baseball), the Negro Leagues, the All-American Girls' Professional Baseball League, and the Brotherhood and Federal Leagues (which tried to establish themselves as major leagues in 1890 and 1913–15, respectively).<sup>4</sup>

Excluding these leagues is both a theoretical and a practical decision. To our knowledge,<sup>5</sup> no systematic data on these leagues exist, making their inclusion impossible. Additionally, some of these leagues would not seem to be in direct competition (for players, fans, etc.) with the minor leagues. For example, due to segregation and racism and despite the fact that the level of play was as good as or superior to organized baseball, the Negro Leagues were not in much direct competition with the minor leagues. There was no competition for players (until the last few years of their existence, in the mid-20th century) and probably little competition for fans. Second, the Negro League teams were predominantly located in major urban areas occupied by major- rather than minor-league teams. Similarly, the Brotherhood and Federal Leagues were attempts to compete with the major leagues. Although they competed with the minors for players and invaded some of their territories, the number of teams was small and the leagues were short-lived. Finally, the All-American Girls' Professional Baseball League was mainly a World War II-era replacement and folded soon after the end of the war.

Despite their presumed second-tier status, some late 19th-century minor-league clubs were as good as or superior to the NL and AA teams, both in terms of quality of play and profits (Seymour 1960; Sullivan 1990). In fact, the American League (AL), formed in 1900, grew out of the Western Association, a minor league whose teams were as good as the NL teams. For purposes of the present analysis, all non-NL and non-AL clubs will be considered minor-league teams and the leagues to which they belong will be considered minor leagues.<sup>6</sup>

<sup>4</sup> Canadian and Mexican teams and the occasional Honolulu team also are excluded from our analyses of foundings and disbandings, although they are included in measures of team density within leagues.

<sup>5</sup> Inquiries at the research library of the Baseball Hall of Fame in Cooperstown confirmed that the data are not available and provided a source for the other historical observations in this paragraph.

<sup>6</sup> The Western Association teams themselves are included in the present analyses. When forming the AL, the franchises were transferred from cities such as Kansas City and Denver to more eastern cities such as Cleveland and Detroit. One year later, a new Western League was formed, with teams in most of the old Western Association cities.

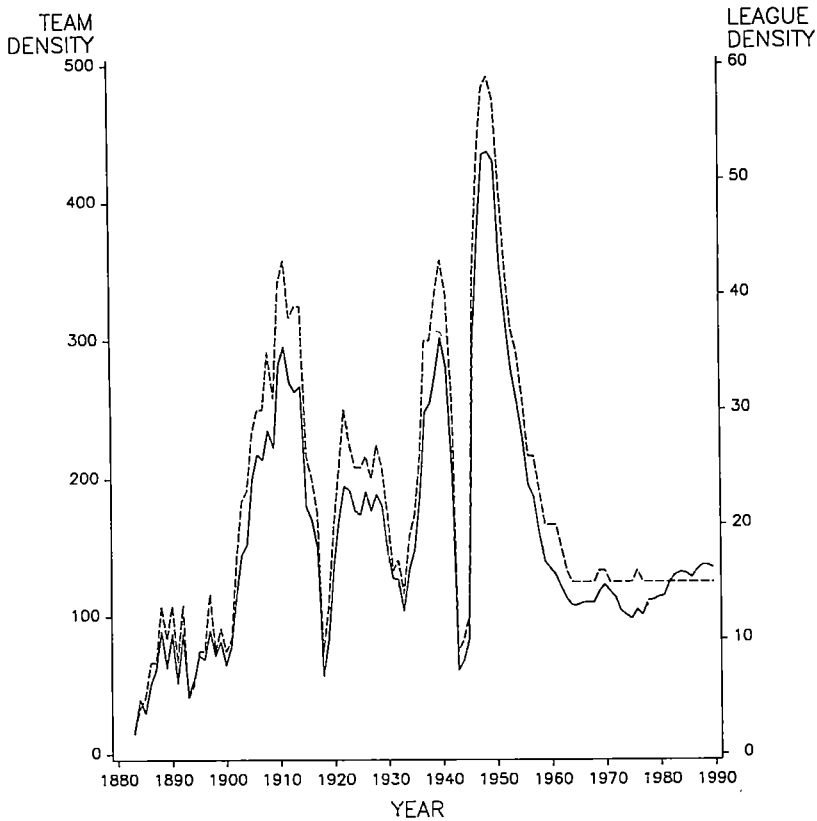


FIG. 1.—Team density (solid line) and league density (dashed line) in U.S. minor-league baseball, 1883–1990.

Figure 1 displays the organizational density of both U.S. minor leagues (right-hand scale) and their teams (left-hand scale) by year from 1883 to 1990 (data sources are described below).<sup>7</sup> It can be seen from the figure that, as is the case with many organizational populations, the number of minor-league teams grows slowly at first and then increases at a rapid rate. In contrast to the often observed pattern of a single period of rapid increase, stabilization, and decline in organizational density, figure 1 shows four distinct periods of rapid increase, stabilization, and decline in the populations of minor-league teams and leagues. Figure 1 also suggests a close association between increases and decreases in teams and leagues, a point critical to the subsequent presentation.

<sup>7</sup> It should be emphasized again that these data series cover the entire history of organized minor-league baseball in the United States from the inception of the organizational form to a recent year.

The 1880s and 1890s were chaotic decades for minor-league baseball, with frequent league and team foundings and deaths. Often, a league might disband but some of its teams would survive and join another league. Or the stronger clubs of two leagues might form a new league, forcing the weaker clubs to disband. By the turn of the century, organized baseball was more stable but still experienced occasional turmoil. In 1903 the minor leagues came together to form the National Association of Professional Baseball Leagues and were officially labeled as "minor" leagues.

The minor leagues continued to experience periodic crises after this date. Severe flooding in the Midwest in 1908 led to the cancellation of some leagues' seasons and forced some clubs to disband, as did the yellow fever outbreak in the South in 1913. World War I, World War II, and the Great Depression also greatly affected the minor leagues, leading to numerous organizational deaths during the crises and numerous foundings immediately thereafter. Also, when new leagues arose to challenge the major leagues—the Brotherhood League in 1890, the AL in 1900–1903, and the Federal League in 1913–15—the minor leagues not only had their players taken away but also frequently had their more profitable territories invaded (Seymour 1960; Sullivan 1990).

However, the single most important event in the history of minor-league baseball occurred in the 1920s, with the implementation of the farm system. A farm system is a series of minor-league clubs affiliated exclusively with a major-league team, thereby allowing the major-league team to develop players of its own, while not having to pay "excessive" fees to purchase player contracts. The revised National Agreement of 1921 allowed major-league teams to own all or part of minor-league teams. The St. Louis Cardinals were the first team to take advantage of these new regulations, owning at least part of seven teams by 1928. Often, entire Class-D leagues (the lowest classification at the time) were affiliated with the Cardinals. This system allowed the Cardinals to field extremely competitive teams without having to pay high prices to the minor-league clubs that owned the players' contracts. The New York Yankees soon adopted this strategy and dominated the AL in the 1930s (Seymour 1960; Sullivan 1990). It is not clear to what extent other teams wanted, or were able, to use this system during the 1930s, but it clearly was common. Until 1950, however, most minor-league teams were independently owned rather than owned by a major-league team (Sullivan 1990).

These crises and changes in the relationship between the major and minor leagues are reflected in figure 1. The number of teams (leagues) grew rapidly in the 1900–1910 decade but then dropped from 283 (41) in 1910 to 180 (26) in 1915, the height of the Federal League War. World

War I caused additional declines, with only 57 teams playing at all in 1918 and only one league successfully completing a season that year (Sullivan 1990). After World War I the numbers of teams and leagues increased rapidly again, although only to 1910 levels, and then declined during the first years of the Great Depression. Beginning in 1934, there is a steady rise until World War II.

Even though World War II reduced the number of teams (leagues) to 61 (9) in 1943, by 1949 there were 437 minor-league clubs and 59 leagues in existence—an all-time high. The beginning of the farm system and especially its profitability may explain the long-term increase in the numbers of teams and leagues from 1928 to 1950.<sup>8</sup> During the 1950s, however, there was a significant decline in the density of minor-league teams (leagues), from 430 (57) in 1950 to 135 (20) in 1960 (see fig. 1). Sullivan (1990) attributes this decline to two factors: relocation of major-league teams and the spread of television broadcasting of games.<sup>9</sup>

From 1965 to 1990 the density of minor leagues was virtually flat, while the density of teams also was quite stable—with small bursts of growth due to expansion of the major leagues in 1969 and 1976, and a slow, but sustained, increase in the 1980s. In 1962 the majors established the Player Development Plan, which reclassified the minors into AAA, AA, and A divisions and created an A-1 Rookie League (Voigt 1987, p. 102). Under the Player Development Plan, each major-league team agreed to finance (by subsidizing salaries, travel expenses, and club salaries) at least five minor-league teams. As is evident in figure 1, the plan appears to have stabilized the financial situation of the minors and created conditions conducive to a steady growth pattern—with correspondingly lower rates of league and team foundings and disbandings, especially from the early 1970s through 1990. This last period of relatively slow growth in teams is due primarily to expansion in the Class-A and Rookie League (the two lowest classifications) teams, as the number of Class-AA and AAA teams has remained virtually constant.

Another possible explanation for the stability of the population of minor-league teams during this recent period is the rise in popularity of

<sup>8</sup> Sullivan (1990) argues that the major-league teams were even subsidizing themselves with the profits earned through their ownership of minor-league teams.

<sup>9</sup> Four major-league teams relocated during the 1950s, thus depriving the minors of some of their richest markets, including those conflicting with the majors' first teams on the West Coast. And the drop in attendance at both the major- and minor-league levels is attributed to television and radio. Although the majors found that broadcasting was a source of tremendous revenue, the one minor-league team to be televised (the Hollywood Stars) saw its attendance drop so dramatically that they were forced to relocate. The majority of the deaths, however, seem to have occurred among the independent teams that could not rely on the major leagues for support.

college baseball. Around 1970, college baseball started to become a significant source of players drafted by the majors. And given the recent television exposure of the College World Series, its popularity seems to be increasing. It may seem reasonable, therefore, to include such teams in the present study. However, we do not feel that college baseball generally presents serious competition for the minor leagues.<sup>10</sup> First, although many players drafted out of high school (and therefore eligible for the minors) do choose to attend college and play college baseball instead, when they are drafted out of college, they almost always play in the minors. Hence, it is not clear that the colleges present significant competition for players. Second, most colleges do not charge for attendance at baseball games nor are the teams profitable businesses (nor operated as such). Third, the popularity of college baseball is highly variable by region, with only a minority of schools drawing large crowds. Finally, to the extent that college baseball is a replacement for minor-league baseball, it would replace the lower classifications of the minor leagues—yet this is where minor-league teams have increased since the mid-1960s.<sup>11</sup>

#### THE DENSITY-DEPENDENCE/POPULATION-DYNAMICS MODEL

To provide a perspective on the evolution of minor-league baseball in the United States that differs from, yet complements, the historical studies published to date, we apply the population-ecological perspective recently developed in sociology. We begin with a review of Hannan's (1986) density model of organizational evolution, which has provided the impetus for numerous empirical applications, evaluations, and extensions in recent years. According to the theory, at low levels of organizational density (number of organizations), the legitimation of the organizational form is the dominant process, causing founding rates to rise and mortality (disbanding, failing) rates to decline. At high levels of density, competition among organizations for environmental resources dominates, which, in turn, causes founding rates to fall and mortality rates to rise.<sup>12</sup>

<sup>10</sup> These conclusions are based on communications with the research library of the Baseball Hall of Fame in Cooperstown.

<sup>11</sup> As a check on the possibility of college baseball as a replacement for minor-league ball, we conducted analyses of the models described below using data only up to 1970 and found no significant change in the results.

<sup>12</sup> Organizational density has been criticized as not being an adequate measure of legitimation and competition by Zucker (1989) and others. For a recent review of issues of direct versus indirect measurement of legitimation, see Singh (1993). Suffice it to say that, as often is the case with the analyses of long historical series that attempt to cover the entire range of existence of an organizational form, direct measures of legitimacy of minor-league baseball teams and leagues are not available to us. Thus, following Hannan and Carroll (1992), we find it convenient to use organizational density as an indirect measure of legitimation and competition processes. In addition,

Empirical studies that use a sample period covering an organizational population's entire history generally have supported the density model (Carroll and Wade 1991). The organizational populations studied include business firms such as telephone companies (Barnett and Carroll 1987), banks (Ranger-Moore, Banazak-Holl, and Hannan 1991), and breweries (Carroll and Swaminathan 1994) as well as populations of voluntary associations such as labor unions (Hannan and Freeman 1989) and business interest associations (Aldrich et al. 1990).

On the other hand, Singh and Lumsden (1990) concluded that the density model of legitimation and competition appears to more consistently describe founding processes than disbanding processes. Carroll and Hannan (1989*b*) suggested that this problem occurs when the organizational populations are small and that the level of analysis may be misspecified for these populations. Specifically, in the newspaper industry they studied, small newspaper markets may be more easily penetrated by newspapers from nearby larger areas and more subject to penetration by other media. In the context of the density model, this implies that the critical density variable may be regional or national density rather than local density. Carroll and Wade (1991) also suggested that legitimation and competition may operate more strongly at different levels of analysis for founding and mortality. For example, founding processes may be more sensitive to local conditions, while mortality depends more on the effects of competition and legitimation at a larger level. These propositions recently were subjected to empirical evaluation in Carroll and Wade's (1991) study of foundings and mortality in the American brewing industry. They concluded that the historical record for this industry is more supportive of the density-dependence model for foundings when density is specified at the regional as opposed to the national level, whereas the reverse is true for mortality.

Expositions of Hannan's (1986) model of density-dependent organizational evolution are readily available (e.g., Hannan and Freeman 1989; Hannan and Carroll 1992). Accordingly, only the bare essentials are sketched here. The model posits that new organizational forms have difficulty establishing themselves vis-à-vis relevant publics (clients, capital providers, labor providers, etc.), that is, in legitimating themselves. As the number of organizations increases, entrepreneurs and other publics begin to see the form as viable, prompting others to adopt the form. In other words, legitimacy gains are associated with rising founding rates and declining mortality rates. As the size of the population of organizations increases, legitimacy gains diminish—the organizational form is

---

as noted below in the text, we make strategic use of the distinction of outside-league from within-league density.

taken for granted. At this point, competition forces increase with increases in the size of the population of organizations. When the population size approaches its carrying capacity, competition intensifies even further. Because of this, founding rates decline and mortality rates increase.

Formally, the density-dependence model leads to the quadratic specification of the founding rate in time period  $t$ ,  $\lambda(t)$ :

$$\lambda(t) = \exp[\beta_0 + \beta_1 N(t) + \beta_2 N^2(t)], \quad (1)$$

where  $N(t)$  is density (i.e., the size of the organizational population) at time  $t$ . The density-dependence model yields the expectations that

$$\beta_1 > 0 \text{ and } \beta_2 < 0.^{13}$$

The density-dependence model similarly leads to a quadratic specification of the organizational mortality (disbanding, failing) rate. This specification often is combined with a Weibull function to account for the fact that organizational mortality rates typically decline with age:

$$\mu(x) = \exp[\alpha_0 + \alpha_1 N(x) + \alpha_2 N^2(x)] \exp[\gamma_0 \ln(x)], \quad (2)$$

with expectations that

$$\alpha_1 < 0 \text{ and } \alpha_2 > 0.$$

Based on Carroll and Hannan's (1989a) proposition that the mortality rate may be greater when density is larger at the time of founding (because of greater competition for scarce resources) and that this effect may persist, model (2) sometimes is amended to include the founding density, a practice that we follow herein.

The quadratic density-dependence model has been modified to take into account population-dynamics processes by Delacroix and Solt (1987, 1988) and Delacroix, Swaminathan, and Solt (1989). Specifically, these authors argued that Hannan's (1986) original density-dependence model overestimated both "the decisiveness with which organizations lacking in legitimacy are stricken and the fixedness of niches or resource spaces" (Delacroix et al. 1989, p. 247). If, in responding to overcrowding, organizations alter the nature of their activities, this may promote survivability and reduce the mortality rate. The more this response is prevalent, Delacroix et al. (1989) argued, the more the relationship between density and the mortality rate must approximate zero.

<sup>13</sup> Equation (1) is written in the conventional single-equation format of conventional studies of organizational foundings. To take into account the structural relationship between minor leagues and teams, this equation will be decomposed into two equations in the subsection on model specification and estimation below.



Furthermore, spells of organizational foundings indicate the emergence of a new or expanded niche. This implies, first, that earlier or lagged foundings should have a strong negative effect on the mortality rate.<sup>14</sup> Second, regarding the founding process, Delacroix and Solt (1987, p. 156) postulated that entrepreneurs closely watch the industry in which they contemplate launching a new venture and that they use the present as a guide to the future. Accordingly, the decision to found and the act itself may well be partly a function of the observation of a spell of foundings. Empirically, the consequence should be a pattern of one or more "founding waves" in the historical data—which implies strong, positive, direct effects of prior foundings on the founding rate.

Delacroix et al. (1989) also proposed that an increased level of prior failings should create loose resources (personnel, facilities, etc.). These resources, in turn, can be recycled to benefit existing organizations, thus reducing the mortality rate. Loose resources also could be recycled by entrepreneurs to create new organizations, thus positively affecting the subsequent founding rate. Note, however, that these propositions assume the transportability of resources, which largely does not apply in the case of localized minor-league baseball facilities and fans. In fact, because of this, disbandings of teams or the leagues to which they belong may well be taken as evidence of niche contraction and discourage entrepreneurs, thus having a negative effect on foundings.

Recent empirical research by Delacroix and Solt (1987, 1988), Delacroix et al. (1989), Carroll and Wade (1991), and others has confirmed that the population dynamics of recent entry and exit into a population of organizations may be of equal, if not more, strategic importance on founding and disbanding rates than density dependence. Consequently, the models estimated herein control for the effects of prior births and deaths (i.e., births and deaths lagged one year) as well as density dependence.<sup>15</sup> They also include population age (computed at the national level)

<sup>14</sup> Earlier or lagged foundings can, of course, provide only indirect evidence of new or expanded niches. As is the case of organizational density as an indicator of legitimation and competition processes, direct measures of new or expanded niches (e.g., indicators of team or league attendance or of growth in the number of cities that could provide suitable consumer bases for minor-league teams) would be preferable. Unfortunately, such direct measures are not available for the entire historical series studied here.

<sup>15</sup> In our analyses of the mortality of minor leagues and their teams, we include both outside-league (national) team density as well as within-league density in order to estimate their potentially different effects. For these analyses, outside-league density is defined as the total number of teams in existence in a given year minus the number of teams in the league to which a particular team belongs (cf. Barnett and Carroll 1987), so that there is no problem of one variable being a part of the other.

in order to isolate the density and population-dynamics effects from general temporal trends in foundings and failings. It is reasonable to expect the effects of population age on foundings and failings to be negative, as both should decline with increasing stabilization of the minor leagues over the 1883–1990 estimation period.

#### STRUCTURED MUTUALISM IN MINOR-LEAGUE BASEBALL

Why should the conventional density-dependence/population-dynamics model of foundings and disbandings of organizations apply to the evolution of the populations of minor-league teams and leagues? This model was advanced primarily to explain the logistic growth of populations to their peak density, not their subsequent decline (Carroll and Hannan 1989*b*). Yet our historical overview revealed at least four distinct periods of rises and falls in numbers of leagues and teams during their 100-plus years of existence in the United States—a much more volatile population than those typically studied to date in the organizational ecology tradition. Clearly, the potential importance of density-dependence and population-dynamics effects with respect to founding waves must be explored as well.

But something more is needed. Minor-league baseball teams are, in part, business organizations (they must make a profit for continued existence) and, in part, cultural and leisure institutions (they embody general cultural values and symbols, provide entertainment, and have consumers, namely, fans). Minor-league baseball teams cannot be successful unless they have other existing minor-league teams to play. That is to say that there is an intrinsic structural force that impels teams to cooperate with other teams within a league (Seymour 1971, p. 38; see also the quote from Goldstein [1989] at the beginning of the paper). This situation differs from that of other populations of business organizations in which, say, one firm may profit from the demise of another through increased sales.<sup>16</sup> The latter effect is attenuated by the cultural norm of territorial rights that arose in professional baseball almost from the beginning. This practice of dividing consumer markets among clubs to give each a monopoly of the local area in which it operated means that the demise of one locally based minor-league team cannot benefit, or only

<sup>16</sup> Certainly, not all business organizations are strictly competitive under all circumstances. Indeed, previous studies (e.g., Barnett and Carroll 1987) have established circumstances under which mutualistic behavior emerges in populations of businesses. The key point here, however, is that minor-league teams are forced to cooperate as part of the league structure in which they participate.

marginally benefits, other teams through increased sales (Seymour 1971, p. 7).

Following recent work on organizational interdependence (Barnett and Carroll 1987; Brittain and Wholey 1988; Barnett 1990), this reasoning suggests a focus on the mutualism that occurs among the teams within a league. Indeed, because a minor-league team literally has no basis for existence over an extended period in the absence of participation within a league, we shall refer to this interdependence as structured mutualism. By "structured mutualism" we mean the type of direct mutualism or cooperation that occurs among the teams within a league to the benefit of each. This type of mutualism, promoted by league membership, works through both of the distinct bases for mutualism defined by Hawley (1950, p. 209): commensalism, defined as positive interdependence among organizations based on supplementary similarities, and symbiosis, which is positive interdependence based on complementary differences. Commensalism among minor-league teams is found in their participation in a particular minor league for the purpose of arranging schedules, playing games, paying the game officials and referees, participating in joint advertising efforts, and so forth. Symbiosis occurs most evidently in the transactions that occur when one team plays another for the purpose of deciding a contest and entertaining fans.

Mutualism is a central feature of the ecology of organizations, because it creates organizational communities—networks of organizations that tie together distinct organizations (Hawley 1986). Previous work in organizational ecology has documented the importance of mutualism as an emergent property of interdependence among organizations in interaction.<sup>17</sup> What is unique about minor-league baseball is that mutualism is a required, intrinsic feature of structured participation within a league—a feature that commences when a team forms and becomes a league member.<sup>18</sup>

As Barnett and Carroll (1987) emphasize, the existence of a mutualistic association of organizations can have vital implications for its members. In the context of minor-league baseball teams, the strength and survivability of a team in a given league can be affected by the strength of its

<sup>17</sup> See, e.g., Barnett and Carroll's (1987) study of the emergence of mutualism among legally autonomous Iowa telephone companies in the early 20th century.

<sup>18</sup> The concept of mutualism as an emergent property could perhaps be applied to the early evolution of baseball in the 19th century (largely pre-1883, before our sample period), when teams often played outside their leagues, making the leagues less important. As the sport evolved, however, the league concept became legitimized as the organizational locus of team activities.

mutualistic partners. Thus, a first and most obvious indicator of the effects of structured mutualism on the survivability of minor-league teams would be a significant positive relationship between league death and the hazard rate for team disbandings.<sup>19</sup>

In addition, however, we can combine the structured mutualism concept and prior work cited above in distinguishing the effects of league versus nonleague team density by operationalizing the former in terms of the density of teams within the league to which a particular league belongs and the latter in terms of the density of teams nationally outside of the league to which a particular team belongs. Then, following Barnett and Carroll (1987), negative main effects and positive quadratic effects of outside-league team density on team mortality can be interpreted in terms of legitimation and diffuse competition processes for the organizational form, while a similar negative-positive pattern of effects on team mortality for within-league density can be taken as indicative of structured mutualistic effects (up to a critical league-size, after which competitive forces take over even within the leagues).<sup>20</sup> With respect to within-league dynamics, a negative main effect of within-league density on team mortality would be indicative of the proposition that the more resources available in a league, the more likely the league's teams are to survive. However, as the number of teams within a league increases, two things may occur. First, the market may become saturated and within-league competitive forces that are introduced may overwhelm the structural forces supporting mutualism that exist by virtue of participation in the league. Second, as the size of a league increases, there is a potential increase of free-riders or teams that behave competitively, undermining mutualistic forces (e.g., by invading the fan territory of another team or by attempting to steal another team's players). Either or both of these situations should produce a positive effect on team mortality of within-league team density squared.

A third and more speculative instance in which the effects of structured

<sup>19</sup> There is no tautology here. Not only do leagues generally survive when individual teams die, but individual teams often survive the death of their leagues. Specifically, only 48.8% of the team deaths observed in our sample are associated with the death of the league to which they belong.

<sup>20</sup> Note that the within-league density for a given team may be quite distinct from the local or regional density faced by the team. That is, within any given local or regional area (such as a group of counties or a state), the density of minor-league teams may include teams from a number of different leagues and thus may differ substantially from the density of teams within a particular league. We return to this point below in our empirical analyses wherein we report tests for the presence of regional density effects in the presence of effects of within-league density.

mutualism on team mortality could occur pertains to the effect of age of the league to which a team belongs. For a league to survive for many years, mutualistic behavior must become, to some extent, legitimated and normative among league members. If league age is indicative of a history of strong mutualism among league members and if this mutualism has an effect on team survival, then league age should display a significant negative relationship to team mortality. Note, however, that a negative league age-effect on team mortality could also reflect managerial and administrative experience and learning, legitimacy conferred by the cultivation of loyal fans (as distinct from density-based legitimation), or other forces. Thus, while we regard the estimation of such a negative relationship as possibly indicative of structured mutualism, no strong inferences can be supported.

Barnett and Carroll (1987) note that the mutualistic association of organizations implies that the organizational communities—leagues in the case of minor-league baseball—may be viewed as competing with each other, although at a high level of analysis. Thus, the concept of structured mutualism implies that we also should find empirical evidence for the operation of a density-dependence/population-dynamics model, as described above, with respect to the mortality of the leagues themselves. In particular, national league density should display a negative-positive pattern of main and quadratic effects on the mortality risk of a particular league. In addition, within-league team mutualism should have an effect on league mortality, because if the mutualism among the teams breaks down sufficiently, the league will die. Because the effects of within-league team mutualism on league mortality may vary with the size of the league, as noted above, we also test for the existence of a negative-positive pattern of main and quadratic effects of within-league density on league mortality.

Previous studies of mutualism as an emergent property in populations of organizations (e.g., Barnett and Carroll 1987) focused primarily on the effects of mutualism on organizational mortality. However, our concept of structured mutualism in terms of mutualistic behavior that is required of a minor-league team from its inception—as part of its participation in a league—also has implications for the founding processes of both minor leagues and their teams. To begin with, foundings of some, but not all, new teams are likely to coincide simultaneously with foundings of new leagues. To distinguish the various possible effects at these two levels, we first expect the usual quadratic density-dependence and population dynamics to be evident in those team foundings that do not coincide with league foundings. Second, we expect the conventional quadratic density-dependence and population-dynamics effects also to be

evident in models of foundings at the mutualistic community (league) level. Third, we expect to find a positive contemporaneous impact of league foundings on team foundings.<sup>21</sup>

In brief, there are a number of relationships that should be evident in the empirical analyses if the notion of structured mutualism operates in the organizational evolution of minor-league baseball. Perhaps most importantly, there should be evidence of strong relationships, net of other density-dependence and population-dynamics effects, between league foundings and team foundings as well as between league deaths and team deaths. In addition, there should be evidence of organizational interaction through legitimation and competitive forces at the level of the leagues themselves.

## METHODS

### Issues of Legitimacy, Left-Censoring, and Boundary Definition

While the density-dependence/population-dynamics model of the evolution of organizational populations has been systematically elaborated and widely applied in recent years, it has not gone without criticism. These criticisms pose questions that must be appropriately addressed in any specific empirical application of the model. For instance, much discussion has centered on the lack of direct measures of legitimation processes in the density-dependence model (see, e.g., Zucker 1989; Hannan and Carroll 1992, pp. 33–44). In the present context, it might be argued, for example, that the relationships of the density of minor leagues and teams to the “taken-for-grantedness” definition of legitimation postulated in the density-dependence model are irrelevant, because baseball always has been considered “legitimate.” As a sport and a cultural activity, the legitimacy of baseball is unquestionable, for the game has historical roots dating back to colonial times.

As a business-type organizational form (i.e., an organizational form with owners distinct from player-employees that seeks profits for the owners), however, it is clear from historical studies that even what came to be known as major-league professional baseball was not a taken-for-granted institution until near the end of the 19th century, and minor-

<sup>21</sup> In the general case, organizations that come in sets may not necessarily invoke structured mutualism with respect to foundings. For instance, a newly established franchise restaurant chain will favor the establishment of new branches, but the branches may not interact mutualistically or, at best, only weakly mutualistically (e.g., by sharing supplies or personnel in emergencies). We expect that, unlike the simultaneous effects of league foundings on team foundings, the effects of a founding at the higher level of organizational structure in organizational types like restaurant chains will take the form of distributed lags over several subsequent time periods.

league baseball did not become "legitimated" until well into the 20th century. Specifically, historical accounts of early baseball (e.g., Goldstein 1989) document how baseball before 1876 differed from baseball after 1876, in other words, how the organizational form itself changed. In the early period, baseball was essentially a sport organized by players (through the baseball clubs) who were not paid—employed—to play the game. This arrangement changed in 1876 with the establishment of the National League. Historical accounts also suggest that major-league baseball—organized as independent businesses connected within a league—was subject to a period of legitimation and institutionalization extending approximately over the next two decades, as rules and regulations were adopted and changed. We also have noted that the concept of minor-league baseball was not even formally constructed until the Tripartite Agreement of 1883 and that the first three decades were particularly volatile periods for this part of the game. Nonetheless, it is true that non-major-league teams existed and played during the seven years between 1876 and 1883. Unfortunately, data are not systematically available on these teams before 1883. What history exists suggests that there were not many such teams and most were short-lived. We believe that this represents what must be a short and relatively insignificant period of left-censoring as compared to the organizational populations that previously have been studied in the density-dependence literature.<sup>22</sup>

A related issue in applications of the density-dependence and population-dynamics models of organizational evolution pertains to what baseball teams should be counted. We previously have noted our decision to limit analyses to minor-league organized baseball because of deficiencies in the historical record on foundings and disbandings of other teams. We also have conducted separate analyses, where possible, of the effects on our findings of including data on other teams (such as college baseball teams; see n.11). Our inability to detect any substantive impact in these analyses leads us to the position that the dominant legitimation, competition, and mutualistic forces in minor-league baseball are those involving the teams and leagues themselves—which we have analyzed.

### Data and Variables

Data for this study were drawn mainly from a listing of professional baseball teams compiled by Pardon and Jackson (1991), with additional

<sup>22</sup> Nonetheless, to satisfy both ourselves and reviewers that we have not missed any undue consequences for the founding and mortality processes, we reestimated all models in the empirical analyses reported below with all known non-major-league teams that played in the period from 1876 to 1883 and found no substantive differences. Results are available from the authors on request.

information from yearly minor-league standings published in baseball guides by A. G. Spalding (1883–1909, 1910–39), A. J. Reach (1883–1927, 1928–34, 1935–39), and the *Sporting News* (1940–42, 1943–48, 1949–62, 1963–89, 1990–91). The information available included the city, state, and league in which a minor-league team played.<sup>23</sup>

A team was coded as *existing* if it played any part of a season in a minor league. Consequently, if a team disbanded prior to the end of a season or began play in the middle of a season, it was coded as existing for that year. A *founding* occurred if a city had a team in one year but not in the previous year (or two teams one year and one team the previous year), and the founding was coded as occurring in the year corresponding to that first season. A *death* occurred if a city did not have a team in a given year but had one in the previous year, and was coded for the final year in which the team played. The data do not distinguish cases in which a team moved from one city to another from cases in which one team died and a second was born, meaning that migrations are treated as a death in the origin city and a founding in the destination city. This coding is consistent with Hannan and Freeman's (1989, p. 151) use of "changes in the use of resources" guideline for determining the death of an organization.<sup>24</sup>

Occasionally, the larger cities would have two or more teams in existence simultaneously. For density and foundings measures multiple teams did not pose a problem, but for measuring individual team mortality it did. If one of two existing teams dies, there is no certain way of assigning that death to a particular team. However, most cases were easy to assign with a high level of certainty. For example, Allentown, Pennsylvania, had two teams in 1894, one in the Eastern League, the second in the Pennsylvania State League. In 1895 Allentown had only one team, and it was in the Pennsylvania State League. Consequently, the Pennsylvania State League team was coded as surviving to 1895, and the Eastern

<sup>23</sup> For later years, additional information is provided on team attendance, previous league champions, major-league team affiliation, and minor-league classification. However, since these items are not available for the entire series, these variables were not included in the present analysis. Subsequent research reports, which focus on a narrower and more recent historical period, will incorporate these additional variables.

<sup>24</sup> A reviewer has noted that this coding may lead to a relationship between the lagged number of deaths and the number of foundings of teams, as we hypothesize below, when in fact none exists. However, results reported later in the text show that the lagged number of deaths has a significant negative impact on foundings. If team migration was the source of the relationship, we would expect a positive effect. Accordingly, while we cannot rule out the possibility of an effect associated with the coding of team migration, it evidently is overwhelmed by the negative impact of the lagged number of deaths.



League team was coded as dying. In six cases, however, one team died and the other switched leagues between seasons. In these cases, combinations of city and league histories were used to decide which team would be coded as surviving. For example, Milwaukee had teams in the Union Association and the Northwestern League in 1884 and one team in the Western League in 1885. However, the Northwestern League disbanded after the 1884 season and then reformed for the 1886 season with Milwaukee rejoining and leaving the Western League. Therefore, the Northwestern League team of 1884 was coded as surviving and moving to the Western League for 1885. Similar analyses were made for the other cases to assess which team was more likely to have survived.<sup>25</sup>

For coding the league data, the same definitions of existence, foundings, and disbandings were applied (if a league existed for any part of a season, it was treated as existing for the entire season, etc.). Name changes were not considered foundings or disbandings. There are a few instances of league mergers, and, with one exception, these were treated as the deaths of the previous leagues and the birth of a new league. The exception occurred in 1971 when the Texas League and the Southern League, which had both been in continuous existence since 1946, merged to form the Dixie League, only to separate again in 1972. In this case, it seemed unreasonable to treat this merger and separation as births and deaths.

The definition used for team existence does lead to some potential measurement error in the computation of within-league density. The number of teams within a league for a year is computed as the number of teams that played in that league, whether they completed the entire season or not. Consequently, if a league started a season with eight teams but one of those teams died and was replaced or migrated to another city during the season, the within-league density is computed as nine teams, even though it may be that no more than eight teams existed at any time during the season. The information available in the sources available to us was not sufficiently consistent across the years to correct this problem. Since leagues with more within-season deaths will have higher within-league densities, this may introduce a slight upward bias in the correlation between within-league density and the failure rates of teams.

Other league-related variables are incorporated into the models estimated below. For the analysis of the number of team foundings in year  $t$ , we include the number of league foundings for that season. When combined with the models we estimate for the number of league foundings in year  $t$ , the result is a recursive model in which some common

<sup>25</sup> To assess sensitivity to these coding decisions, analyses were performed both with and without these cases. Their exclusion did not substantially affect the results.

explanatory variables for both league and team foundings have direct as well as indirect effects on team foundings. In the analysis of team disbandings, league death is treated as a dummy variable defined as "1" in year  $t$  if the league in which a city's team was disbanded in that year and "0" otherwise. League age is included—as an indicator of league stability and success in maintaining mutualism among its teams—in the mortality models for both teams and leagues.

Several control variables were constructed on the basis of extant historical studies of the development of minor-league baseball in the United States (as reviewed above) and general model-building considerations. To control for the effects on founding and failing rates of the development of the farm system beginning in the late 1920s, a dummy variable was constructed. This variable assigns a value of "1" for years subsequent to 1927 and "0" otherwise. A dummy variable indicating that a team was founded in 1946 or 1947 also is included because of the large number of foundings recorded in those years (and associated with the end of World War II). We similarly defined dummy variables for the years defined by World War I, World War II, and the Great Depression (during which failings dramatically increased and foundings declined). Also, in order to assess the impacts of the farm system reorganization in 1962 and of the possible competition from the Negro Leagues, we defined dummy variables for the 1962–90 and 1925–47 periods, respectively. Finally, population age (computed at the national level and beginning with 1883 = 1) is included in order to isolate general temporal trends from the effects of density and population dynamics. Table A1 in appendix A gives sample means and SDs of all variables (except for historical time-period dummy variables) used in the empirical analyses reported below.<sup>26</sup>

### Model Specification and Estimation

For model estimation, we follow conventional practice in studies of organizational evolution (e.g., Hannan and Freeman 1989; Carroll and Wade 1991). That is, we apply hazard rate regression analysis for models of mortality rates and negative binomial regression to estimate models of founding rates. In the mortality analyses of models similar to those of equation (2) except with all covariates identified above included in the exponential term on the right-hand side, the organization (team or league) is used as the unit of analysis. We use the organization because previous research has demonstrated that organizational mortality declines with

<sup>26</sup> For the mortality analyses, numbers of spells analyzed, deaths, and censored spells are reported along with the estimated model parameters in the respective tables in the text below.

age (Carroll 1983; Freeman, Carroll, and Hannan 1983). Weibull hazard rate mortality regression models were estimated using a FORTRAN subroutine with the statistical package BMDP, which was developed by Petersen (1986).

For foundings, negative binomial regression is used to estimate models of the form of equation (1) with all of the covariates identified above included in the exponential term on the right-hand side. We use negative binomial regression, because the dependent variable (event counts of league or team foundings per year) may be overdispersed in the sense that the variance exceeds the mean. Negative binomial regression incorporates a dispersion parameter (which we expect to be estimated as significantly positive) to accommodate the excess variance. When the dispersion parameter is not statistically significant, the corresponding negative binomial model becomes equivalent to a Poisson regression model, which assumes equality of mean and variance of the dependent variable. We used the negative binomial program in LIMDEP (Greene 1990) to estimate the founding models.

It should be noted that when applied to team foundings these negative binomial models are estimated only for those foundings that are independent of league foundings. We applied a second negative binomial regression to the dynamics of the league foundings and a third (ordinary least squares) regression to the effects of league foundings on team foundings. Together, the latter two equations are equivalent to Petersen's (1988) "continuous state space" hazard model, with the second founding equation allowing us to predict whether a league is born and the third allowing us to predict how many teams are in a league conditional on its having been born.<sup>27</sup> This approach allows us to compare the different structural properties of births that arise through the founding of a collective unit (a league) versus autonomous births.

For each model estimated, we report a conventional chi-square fit statistic. This statistic is defined as minus two times the difference of log-likelihoods of fitted versus baseline models, where the baseline models include a constant term and a dispersion parameter (in the case of foundings) or a constant term and organization age (for failings). That the estimation of additional regression parameters for the explanatory variables significantly improves model fit is indicated by a model chi-square that is large compared to the degrees of freedom lost to the estimation of additional parameters (and thus associated with a low probability of occurring by chance).

<sup>27</sup> We are indebted to an anonymous reviewer for suggesting this three-equation modification of the conventional single-equation negative binomial approach to modeling foundings in organizational ecology research.

TABLE 1

WEIBULL HAZARD RATE MODEL OF MINOR-LEAGUE TEAM DISBANDINGS, 1883-1990

EXPLANATORY VARIABLE	MODEL 1		MODEL 2	
	Coefficient	SE	Coefficient	SE
Constant .....	-.7274**	.098	-.7004**	.311
Outside-league density .....	.0019	.001	.0008	.001
Outside-league density <sup>2</sup> /100 .....	-.0007**	.0002	-.0005**	.0003
Within-league density .....	...	...	-.2454*	.068
Within-league density <sup>2</sup> .....	...	...	.0155*	.004
League death .....	...	...	1.723*	.061
League age .....	...	...	-.0227*	.002
Earlier team foundings (lagged one year) .	-.0067*	.001	-.0033*	.001
Earlier team deaths (lagged one year) ....	.0011	.001	-.0002	.001
Team density at founding .....	.0040*	.0003	.0023*	.0004
Farm system period (1928-90) dummy ..	.8503**	.127	.4097**	.147
World War I period dummy .....	.6964*	.151	.1403	.211
World War II period dummy .....	1.039*	.115	.3360*	.155
Great Depression period dummy .....	.3291*	.122	.0742	.149
Farm system reorganization period (1962-90) dummy .....	.3282*	.125	.0668*	.139
Negro Leagues period (1925-47) dummy .	-.5616**	.081	-.2716**	.095
Population age .....	-.0429*	.003	-.0206*	.003
Team age .....	.0641*	.024	.2157*	.028
Model $\chi^2$ .....	1,235.2*		3,233.4*	
df <sup>a</sup> .....	12		16	

NOTE.—*N* of spells = 17,035; *N* of deaths = 3,030; *N* of censored spells = 135.

\*Compared to a model with the constant and team age only.

\**P* < .05 (one-tailed test).\*\**P* < .05 (two-tailed test), including coefficients with a sign contrary to the hypothesis.

## RESULTS

## Mortality

A first objective of the empirical analysis is to determine whether or not the standard density-dependence/population-dynamics model provides significantly better fits to data on mortality in the populations of U.S. minor-league baseball teams and leagues than simple baseline models. We also seek to determine whether or not variations in team and league mortality show evidence of the structured mutualism effects described above and whether these effects contribute significantly to better fitting models.

Table 1 presents estimates of these effects for minor-league team mortality. The first column of estimated coefficients and standard errors in the table give the results for a standard density-dependence/population-dynamics Weibull hazard rate model, while the second column adds to

this model the structured mutualism effects identified above.<sup>28</sup> Recall that our prior theoretical expectations for the effects of the explanatory variables on the team hazard rate are: positive effects for outside-league team density squared, within-league density squared, league death, team density at the founding of a minor-league team, and the dummies for the World War I, World War II, Great Depression, and Negro League-competition periods; but negative effects are expected for outside-league team density, within-league density, league age, earlier team foundings (foundings lagged one year), earlier team deaths (deaths lagged one year), the farm system period dummy, the post-farm system reorganization period dummy, population age, and team age.

Consider first the estimated outside- and within-league team density-dependence effects in the two estimated models of table 1. It can be seen that the expected negative-positive quadratic pattern appears for the linear and quadratic effects of the within-league density (and each coefficient reaches conventional levels of statistical significance in the second column). But this expected pattern is not evident for the outside-league density variables. Evidently, the survivability of teams is more sensitive to density effects of the team's league than to those of the national aggregates of minor leagues.<sup>29</sup> Furthermore, the algebraic-sign pattern and values of the coefficients of the within-league density variables are consistent with increasing league size at first contributing to team survivability (through increasing resources) but then, after approximately eight teams, leading to a greater mortality rate (through such processes as the increasing salience of competitive forces or free-rider teams).

The second column of table 1 also shows that the death of a league has an extremely strong positive effect on the mortality of its member teams—a result that supports the structured mutualism hypothesis. In further support of this hypothesis, the significantly negative estimated

<sup>28</sup> The anonymous reviewer cited in n.24 also suggested a three-equation analysis of the mortality process of teams and leagues. In separate analyses (available from the authors on request), we have pursued this suggested approach. The findings obtained are substantively similar to those reported in tables 1 and 2. There are, however, several alternative ways of conducting these disaggregated analyses, depending upon the particular methodological choices made. To explore these alternatives systematically essentially requires a separate methodological article. Thus, to conserve space and retain the substantive focus of the present article, we have chosen to report our mortality results for minor-league teams and leagues in the conventional format.

<sup>29</sup> It can be noted that the algebraic pattern and statistical significance of the within-league coefficients in table 1 are not affected by including within-state-but-outside-league team density in the equations (results available from authors on request). This demonstrates that it is the within-league density effects that are significant with respect to survivability of a team and implies that these effects are distinct from those of regional density effects involving teams from different leagues.

coefficient for league age shows that membership in an older league—presumably (with the various caveats noted above) indicative of the successful maintenance of mutualism within the league—helps ensure the survivability of a team.

Estimated coefficients in table 1 for the other explanatory variables are mixed with respect to consistency with theoretical expectations, at least for those that attain the  $P \leq .05$  level of statistical significance. In the second equation, the coefficients for earlier team foundings, team density at founding, the World War II dummy, and population age have algebraic signs in the expected directions. On the other hand, the significantly positive coefficients for team age, the farm system era dummy, and the farm system reorganization period dummy indicate that the risk of mortality continues to exist even for older teams and that the farm system and its restructuring in 1962 did not reduce team mortality net of other factors.<sup>30</sup> Furthermore, rather than increasing team mortality as would be expected if there were competitive effects between leagues for players and fans, the net effect of the Negro Leagues period dummy is negative.

Table 2 reports the corresponding results for the estimated Weibull hazard rate model at the structured mutualistic community (league) level of analysis. Again, the first column of estimated coefficients pertains to a model in which the density variables are defined in terms of overall (national) league density to represent the possible operation of conventional density-dependence dynamics at the community (league) level of analysis. To this, the second column adds the within-league density effects in order to ascertain whether or not the strength of mutualistic effects within a league affects the league's survivability.

It can be seen that the expected negative-positive pattern of algebraic signs for the estimated effects of density and density squared is present for density defined both ways, but that only the effects of the within-league team density variables attain statistical significance in the second model. Furthermore, the coefficients for the within-league density effects imply that the effect on league mortality of an increasing number of teams within the league changes from negative to positive at about 10 teams. Evidently, this represents a critical region of league size for risk of breakdown of within-league team mutualism.

Several other coefficients in table 2 exhibit patterns of algebraic signs quite similar to those for team mortality in table 1, with similar interpre-

<sup>30</sup> Recall that the migration of a team from one city to another is treated as a death in the first city and a birth in the second in our data. Thus, the positive age coefficient in the team hazard rate equation may be, in part, due to a failure of the team migration rate to decline with age.

TABLE 2

WEIBULL HAZARD RATE MODEL OF LEAGUE DISBANDINGS, 1883-1990

EXPLANATORY VARIABLE	MODEL 1		MODEL 2	
	Coefficient	SE	Coefficient	SE
Constant .....	-.9764**	.260	2.380**	.618
Overall (national) league density .....	-.0085	.025	-.0114	.025
Overall (national) league density <sup>2</sup> /10 .....	.0016	.004	.0025	.004
Within-league team density .....	...	...	.8100*	.157
Within-league team density <sup>2</sup> .....	...	...	.0414*	.010
Earlier league foundings (lagged one year) ....	-.0776*	.034	-.0800*	.034
Earlier league deaths (lagged one year) .....	.0081	.023	.0045	.022
League density at founding .....	.0318*	.007	.0297*	.007
Farm system period (1928-90) dummy .....	.2330	.422	.1785	.424
World War I period dummy .....	.8274*	.417	.6897*	.373
World War II period dummy .....	1.654*	.359	1.532*	.362
Great Depression period dummy .....	1.108*	.412	1.152*	.426
Farm system reorganization period (1962-90) dummy .....	.2142	.473	-.0469	.477
Negro Leagues period (1925-47) dummy .....	-.0329**	.010	-.0292**	.010
Population age .....	-.7630*	.273	-.7661*	.276
League age .....	.0287	.088	.1056	.091
Model $\chi^2$ .....	144.6*		192.6*	
df <sup>a</sup> .....	12		14	

NOTE.—*N* of spells = 2,069; *N* of deaths = 275; *N* of censored spells = 15.

\*Compared to a model with the constant and league age only.

\**P* < .05 (one-tailed test).\*\**P* < .05 (two-tailed test), including coefficients with a sign contrary to the hypothesis.

tations. Noteworthy, however, is the fact that the coefficients for the World War I, World War II, and Great Depression dummies are significantly positive in table 2, whereas only the World War II coefficient attained significance in table 1. Given the recursive relationship between the hazard rates for leagues and teams through the impact of league deaths on team mortality in table 1, this implies that a principal effect on increased team mortality of these historical periods occurred through dramatically increased league mortality. The coefficients of table 1 also suggest additional period effects on team mortality in World War II beyond those of league mortality.

Overall, the chi-square model fit statistics in tables 1 and 2 indicate significant reductions in unexplained variance for each of the models as compared to baseline models with a constant and age terms (of teams and leagues in tables 1 and 2, respectively) only. In addition, a comparison of the chi-square values for each of the two models indicates that, relative to the differences in degrees of freedom between the models, the addition

TABLE 3

NEGATIVE BINOMIAL REGRESSION MODEL OF MINOR-LEAGUE TEAM FOUNDINGS  
INDEPENDENT OF LEAGUE FOUNDINGS, 1883-1990

Explanatory Variable	Coefficient	SE
Constant .....	.2.351**	.131
Overall (national) team density .....	.0118*	.002
Overall (national) team density <sup>2</sup> /100 .....	-.0020*	.0005
Earlier team foundings (lagged one year) .....	.0020	.003
Earlier team deaths (lagged one year) .....	-.0015	.002
Farm system period (1928-90) dummy .....	.4241	.187
World War I period dummy .....	-.1047	.280
World War II period dummy .....	-.6043*	.232
Great Depression period dummy .....	-.2739	.175
1946-47 period dummy .....	-.1051*	.896
Farm system reorganization period (1962-90) dummy .....	.2314	.191
Negro Leagues period (1925-47) dummy .....	-.2104	.128
Population age .....	-.0200*	.004
Dispersion .....	.0255	.016
Model $\chi^2$ .....	112.6*	
df <sup>a</sup> .....	12	

\*Compared to a model with the constant and the dispersion term only.

\* $P < .05$  (one-tailed test).

\*\* $P < .05$  (two-tailed test), including coefficients with a sign contrary to hypothesis.

of the explanatory variables in the second equation in each table improves the fit of the models. The improvement of model fit is particularly large for the second model in table 1.

### Foundings

A second objective of the empirical analysis is to determine whether or not the density-dependence/population-dynamics and structured mutualistic hypotheses advanced earlier account for foundings in the populations of U.S. minor-league baseball teams and leagues. As described earlier, we conduct this analysis through the estimation of three interrelated equations. Table 3 displays estimates for the first of these equations, a negative binomial regression of those minor-league team foundings that occur independently of league foundings.

As noted earlier, we seek to ascertain the extent to which conventional density dependence and population dynamics are evident in these foundings. Recall our earlier theoretical expectations for the explanatory variables in the model: positive effects for overall (national) team density, earlier team foundings (team foundings lagged one year), earlier team deaths (team deaths lagged one year), the farm era dummy, the 1946-47



dummy, and the negative binomial dispersion parameter; but negative effects for overall (national) team density squared, population age, and the dummy variables for World War I, World War II, the Great Depression, the 1962–90 farm system reorganization period, and the Negro League–competition period.

It can be seen from table 3 that the nonmonotonic effects predicted by the density-dependence model are strongly evident—with estimated coefficients of both team density and density squared having the predicted algebraic signs and magnitudes much larger than their estimated SEs. In brief, for those team foundings that occur independently of the founding of new leagues, the evidence suggests that conventional density-dependence dynamics are operative. Furthermore, the estimated coefficients of the team density and density squared variables imply a peak in the quadratic function for team foundings of about 295 teams—beyond which the competitive forces induced by minor-league team density lead to a decline in the rate of establishment of teams independently of new league foundings.

Other variables with statistically significant (at the one-tailed,  $P \leq .05$  level) estimated effect coefficients in the expected directions in the team foundings model of table 3 are population age and the period dummy variable for World War II. The coefficients of these variables are consistent with a decreased rate of independent foundings of teams during World War II and a declining rate of foundings as the population of minor-league teams has aged.

Table 4 reports analogous results for the second negative binomial equation of our analysis of foundings. As noted earlier, if mutualism is operative at the community (league) level of analysis, then we expect some aspects of the conventional density-dependence/population-dynamics model to operate at this level. In the model of table 4, we again expect positive effects for overall (national) league density, earlier league foundings (league foundings lagged one year), earlier league deaths (league deaths lagged one year), the farm era dummy, the 1946–47 dummy, and the negative binomial dispersion parameter, while we expect negative effects for overall (national) league density squared, population age, and the dummy variables for World War II, the Great Depression, the 1962–90 farm system reorganization period, and the Negro League–competition period.

The algebraic signs and levels of statistical significance of the coefficients of the league density and density squared variables in table 4 imply that conventional density-dependence dynamics are indeed present at the mutualistic community level of minor-league baseball. Furthermore, the magnitudes of the estimated coefficients in table 4 imply a peak in the density-dependence process (i.e., the point at which competition

TABLE 4

NEGATIVE BINOMIAL REGRESSION MODEL OF LEAGUE FOUNDINGS, 1883-1990

Explanatory Variable <sup>a</sup>	Coefficient	SE
Constant .....	1.917**	.274
Overall (national) league density .....	.0865*	.034
Overall (national) league density <sup>2</sup> /10 .....	-.0121*	.006
Earlier league foundings (lagged one year) .....	-.0367	.030
Earlier league deaths (lagged one year) .....	-.1375*	.047
Farm system period (1928-90) dummy .....	.4171	.505
World War II period dummy .....	-.5402	.982
Great Depression period dummy .....	-.7269	.473
1946-47 period dummy .....	2.493*	.621
Farm system reorganization period (1962-90) dummy .....	-1.157*	.603
Negro Leagues period (1925-47) dummy .....	.0727	.360
Population age .....	-.0405*	.012
Dispersion .....	.1439	.104
Model $\chi^2$ .....	107.8*	
df <sup>b</sup> .....	11	

<sup>a</sup>The World War I dummy was excluded from this equation for convergence purposes.<sup>b</sup>Compared to a model with the constant and the dispersion term only.\* $P < .05$  (one-tailed test).\*\* $P < .05$  (two-tailed test).

forces a decline in the founding rate for leagues) of about 33 leagues. Interestingly, each of the four historically observed declines displayed in figure 1 occurred after this peak league density was approached or pierced.

The four other coefficients that attain statistical significance (at the one-tailed,  $P \leq .05$  level) in table 4 are prior league deaths, population age, and the dummy variables for the 1946-47 and farm system-reorganization periods. The positive coefficient for the 1946-47 period is consistent with the historical reactivation of leagues after World War II, while the negative coefficient for the farm system reorganization period implies that the effect of this structural rearrangement of the relationship of major- and minor-league teams was a reduction in the founding rate for minor leagues. The negative direction of the coefficient for population age implies a long-term trend toward a lower rate of foundings of minor-league baseball leagues. Moreover, the negative coefficient of the variable for the number of earlier league deaths implies that the loose resources created by league failings may be sufficiently locality specific as not to facilitate the creation of new leagues. In fact, it suggests that league failings in the previous year may even act as a signal of a poor environment for league success to entrepreneurs so as to slow the founding rate in the subsequent year. Our earlier conjectures had suggested that this

type of process might occur with respect to both team and league foundings, but the results of tables 3 and 4 show that this process is statistically significant only at the community (league) level of analysis. Overall, the chi-square statistics in both tables 3 and 4 indicate highly significant improvements in the fits of each of the models as compared to a baseline model consisting of only the constant term and dispersion parameter.

As a third component of our analysis of team foundings, recall that we expect to find a positive contemporaneous impact of league foundings on team foundings. To examine this, we separately performed an OLS regression of those minor-league team foundings that occurred conditional on the birth of a new league on the league births themselves. On the basis of this regression (with SEs in parentheses beneath the estimated coefficients):

$$Y = -1.951 + 6.254X \quad (R^2 = .966), \\ (0.531) \quad (0.113)$$

where, for each year,  $Y$  denotes the number of team foundings in new leagues and  $X$  denotes the number of new leagues founded, we can estimate that historically, on average, 6–7 new teams have been established per new minor league. In brief, whereas the negative binomial regression model of table 4 facilitates an analysis of the forces that affect minor league births, this OLS regression facilitates a prediction of how many teams will be in the league conditional on its having been born.

It must be concluded that these three estimated equations provide strong support for quadratic density and structured mutualism effects on foundings of minor leagues and their teams. In addition, the niche contraction feature but not the resource recycling feature of the population-dynamics model receives support for league, but not team, foundings.

## CONCLUSION

In sum, we found evidence for the operation of structured mutualism—cooperative behavior among teams to the benefit of each induced by virtue of their membership in leagues—with respect to minor league baseball team and league foundings and disbandings. We also found evidence for the presence of conventional quadratic density-dependence mechanisms and some aspects of population-dynamics mechanisms.

With regard to conventional population-dynamics mechanisms, the empirical evidence favors a niche contraction interpretation but not a reallocation-of-loose-resources interpretation for foundings of minor leagues but not for teams. The resources released by the demise of a

minor league and its teams (ballparks, fans, players, coaches) appear to be sufficiently localized so that they cannot be easily reallocated to other teams or leagues. Rather, the empirical estimates for the effects of earlier deaths are consistent with the notion that they are monitored by entrepreneurs as indicators of the favorability of the environment to the founding and survivability of leagues.

In the case of league foundings and foundings of teams that are independent of league foundings, we detected quadratic density effects with the density variables defined at the population level in terms of overall (national) league and team density, respectively. The presence of density effects at the level of league foundings implies ecological dynamics are operative at the postulated mutualistic community level. In addition, the founding of a league carries with it an average of six to seven foundings of new teams—with all of the cooperative behavior among teams implied thereby. Thus, as regards founding processes, we conclude that minor-league baseball teams and leagues are interrelated through both the density-dependence and structured mutualism processes.

With respect to both team and league mortality, we found greater sensitivity to within-league team density than to outside-league team and overall (national) league density, respectively—implying that the survivability of a team or league is affected more by the vitality of teams in its league than by national trends. Because the within-league density effects on team and league mortality are quadratic, we conclude that as the number of teams in any team's league increases—thus increasing the resources available to the league's teams through the structured mutualism processes induced by league membership—that team's risk of death initially decreases. At a league size of approximately eight teams, however, competitive forces become stronger and overwhelm the structured mutualism effects, hence increasing the team's mortality rate. By comparison, the tipping point from negative to positive effects of within-league team density on a particular league's mortality risk occurs at about 10 teams. Numerous specific factors could operate in determining these quadratic effects on team and league mortality. We earlier postulated that the potential for free-rider team behavior increases after a certain size of league is attained. In addition, after a certain threshold of within-league team density, scheduling logistics problems may increase and geographic factors could affect team rivalries and transportation costs. Assaying the salience of these various possibilities is a task for future research.

Although it would be possible in theory for a minor-league baseball team to exist in isolation, there would appear to be no point to this other than for a kind of exercise in museum-exhibitionism. Thus, the founding and continued existence of a minor-league team necessitates a minimum

level of mutualistic participation in a network of other teams within a league—which we have called structured mutualism. This, in turn, implies the hypothesis that the founding and disbanding processes for minor-league teams should be affected by league foundings and deaths, for which we find strong support. In addition, the mutualistic communities (leagues) themselves exhibit quadratic density-dependent (legitimation-competition) effects in their founding and mortality processes.

This conceptualization of the organizational evolution of minor leagues and teams raises the question of whether or not there exist other populations of organizations in which mutualistic structures similarly are an intrinsic structural feature. Other populations of sports teams tied together by league memberships are obvious candidates. But, following the logic of mathematicians who determine the properties of new functions by looking at their behavior in limiting cases, sports teams bound together within leagues may be considered an extreme case in which the presence of structured mutualistic behavior is essentially guaranteed.

Could other organizations, such as local labor unions tied together by membership within an overall national union (where, if the locals do not contribute to strike funds, honor picket lines, and so forth, the whole enterprise is endangered) behave similarly? Some other examples of sets of organizations for which structured mutualism might be evidenced are: groups that tie together nonprofit organizations (e.g., the United Way), trade associations, research consortia, colleges and universities (at least with respect to key departments), health maintenance organizations, and, indeed, “managed competition” as an organizing principle within the health care industry. In these sets of organizations, structured mutualism is likely helpful, but not necessary by definition of group membership. In other words, the strength of structured mutualism may be variable rather than merely present or absent. This possibility leads to a number of questions beyond whether or not structured mutualism exists, such as: What are its limits? What strength does it exert in different populations? What population characteristics contribute to determining the nature and strength of structured mutualism? How does structured mutualism shape population characteristics? In addressing the applicability of the concept of structured mutualism to other collectivities of organizations, these and related questions need to be addressed.

## REFERENCES

- A. G. Spalding Co. 1883–1909. *Spalding's Base Ball Guide and Official League Book*. New York: American Sports. (Published annually).  
 ———. 1910–1939. *Spalding's Official Base Ball Guide*. New York: American Sports. (Published annually).

- A. J. Reach Co. 1883–1927. *Reach Official American League Base Ball Guide*. Philadelphia: A. J. Reach. (Published annually).
- . 1935–1939. *Reach Official American League Base Ball Guide*. New York: American Sports. (Published annually).
- A. J. Reach, Wright and Ditson, Inc. 1928–1934. *Reach Official American League Base Ball Guide*. Philadelphia: A. J. Reach, Wright and Ditson. (Published annually).
- Aldrich, H., U. Staber, C. Zimmer, and J. Beggs. 1990. "Minimalism and Mortality: Patterns of Disbanding among American Trade Associations in the 20th Century." Pp. 21–52 in *Organizational Evolution: New Directions*, edited by J. V. Singh. Newbury Park, Calif.: Sage.
- Barnett, W. P. 1990. "The Organizational Ecology of a Technological System." *Administrative Science Quarterly* 35:31–60.
- Barnett, W. P., and G. Carroll. 1987. "Competition and Mutualism among Early Telephone Companies." *Administrative Science Quarterly* 32:400–421.
- Brittain, J. W., and D. R. Wholey. 1988. "Competition and Coexistence in Organizational Communities: Population Dynamics in Electronic Components Manufacturing." Pp. 195–222 in *Ecological Models of Organizations*, edited by G. R. Carroll. Cambridge, Mass.: Ballinger.
- Carroll, G. R. 1983. "A Stochastic Model of Organizational Mortality: Review and Reanalysis." *Social Science Research* 12:303–29.
- Carroll, G. R., and M. T. Hannan. 1989a. "Density Delay in the Evolution of Organizational Populations: A Model and Five Empirical Tests." *Administrative Science Quarterly* 34:411–30.
- . 1989b. "Density Dependence in the Evolution of Populations of Newspaper Organizations." *American Sociological Review* 54:524–41.
- Carroll, G. R., and A. Swaminathan. 1994. "Density Dependent Evolution in the American Brewing Industry from 1663 to 1988." *Acta Sociologica*. In press.
- Carroll, G. R., and J. Wade. 1991. "Density Dependence in the Organizational Evolution of the American Brewing Industry across Different Levels of Analysis." *Social Science Research* 20:271–302.
- Delacroix, Jacques, and Michael E. Solt. 1987. "Niche Formation and Entrepreneurship in the California Wine Industry, 1941–84." Pp. 151–55 in *Academy of Management Best Papers Proceedings*, edited by Frank Hoy. New Orleans: American Academy of Management.
- . 1988. "Niche Formation and Foundings in the California Wine Industry 1941–84." Pp. 53–70 in *Ecological Models of Organizations*, edited by G. R. Carroll. Cambridge, Mass.: Ballinger.
- Delacroix, J., A. Swaminathan, and M. E. Solt. 1989. "Density Dependence versus Population Dynamics: An Ecological Study of Failings in the California Wine Industry." *American Sociological Review* 54:245–62.
- Freeman, J., G. R. Carroll, and M. T. Hannan. 1983. "The Liability of Newness: Age Dependence in Organizational Death Rates." *American Sociological Review* 48:692–710.
- Goldstein, W. 1989. *Playing for Keeps: A History of Early Baseball*. Ithaca, N.Y.: Cornell University Press.
- Greene, W. H. 1990. LIMDEP Version 5.1. Econometric Software, New York.
- Hannan, M. T. 1986. "Competitive and Institutional Processes in Organizational Ecology." Technical Report 86-13. Cornell University, Department of Sociology.
- Hannan, M. T., and G. R. Carroll. 1992. *Dynamics of Organizational Populations*. New York: Oxford University Press.
- Hannan, M. T., and J. Freeman. 1989. *Organizational Ecology*. Cambridge, Mass.: Harvard University Press.

- Hawley, A. H. 1950. *Human Ecology: A Theory of Community Structure*. New York: Ronald Press.
- . 1986. *Human Ecology: A Theoretical Essay*. Chicago: University of Chicago Press.
- Kahn, R. 1972. *The Boys of Summer*. New York: Harper & Row.
- Pardon, John F., and Jerome Jackson. 1991. *The Cities of Professional Baseball*. Cooperstown, N.Y.: National Baseball Hall of Fame and Museum.
- Petersen, T. 1986. "Estimating Fully Parametric Hazard Rate Models with Time Dependent Covariates." *Sociological Methods and Research* 14:219–46.
- . 1988. "Analyzing Change over Time in a Continuous Dependent Variable: Specification and Estimation of Continuous State Space Hazard Rate Models." *Sociological Methodology* 18:137–64.
- Ranger-Moore, J., J. Banazak-Holl, and M. T. Hannan. 1991. "Density Dependent Dynamics in Regulated Industries: Founding Rates of Banks and Life Insurance Companies." *Administrative Science Quarterly* 36:36–65.
- Seymour, H. 1960. *Baseball: The Early Years*. New York: Oxford University Press.
- . 1971. *Baseball: The Golden Age*. New York: Oxford University Press.
- Singh, J. V. 1993. "Density Dependence Theory—Current Issues, Future Promise." Review essay on *Dynamics of Organizational Populations* by M. T. Hannan and Glenn R. Carroll. *American Journal of Sociology* 99:464–73.
- Singh, J. V., and C. J. Lumsden. 1990. "Theory and Research in Organizational Ecology." *Annual Review of Sociology* 16:161–95.
- Sporting News. 1940–42. *Baseball Guide and Record Book*. St. Louis: Sporting News. (Published annually).
- . 1943–48. *Baseball Guide*. St. Louis: Sporting News. (Published annually).
- . 1949–62. *Baseball Official Guide*. St. Louis: Sporting News. (Published annually).
- . 1963–89. *Official Baseball Guide*. St. Louis: Sporting News. (Published annually).
- . 1990–91. *Baseball Guide*. St. Louis: Sporting News. (Published annually).
- Sullivan, N. J. 1990. *The Minors: The Struggle and Triumph of Baseball's Poor Relation from 1876 to the Present*. New York: St. Martin's Press.
- Voigt, D. Q. 1987. *Baseball: An Illustrated History*. University Park: Pennsylvania State University Press.
- Zucker, L. 1989. "Combining Institutional Theory and Population Ecology: No Legitimacy, No History." Comment on "Density Dependence in the Evolution of Populations of Newspaper Organizations" by G. R. Carroll and M. T. Hannan. *American Sociological Review* 54:542–45.

## Book Reviews

*Culture and Enchantment*. By Mark A. Schneider. Chicago: University of Chicago Press, 1993. Pp. xiv + 225. \$34.95 (cloth); \$13.95 (paper).

Chandra Mukerji

*University of California, San Diego*

During the Cold War, the United States and Soviet Union engaged in proxy wars in the Third World to test their relative strengths without endangering their own populations. Academics have also learned to use intellectual proxy wars, discussing the strengths and weaknesses of other disciplines in order to make claims about good work in their own without having to do damage to their immediate colleagues. *Culture and Enchantment* is a particularly engaging exemplar of this problematic genre. Read from the beginning, it seems to be about the differences between the enchanted world of cultural studies and the disenchanted world of science, a story in which mature sciences are wrested from an enchanted realm of cultural readings of the world, a story of human cognitive styles interacting with historical circumstances, yielding patterns of intellectual continuity and change. Read from the end of the book (particularly from chap. 7, where the author discusses the prospects for a scientific sociology), the real point of the argument becomes clear: Cultural social science has left those interested in building a scientific sociology stymied in their morally virtuous efforts to bring sociology closer to a mature science. A long and profound history of science is mobilized by Schneider to show their fight to be right; snippets of work from recent cultural studies are laid bare to demonstrate how tricky their task of disenchantment has become. The result is a story of epic proportions, where clashing epistemological styles are locked in battle, their struggles caught in lavish prose and a narrative about history motivated by an elegant moral purpose. This book has such high drama and theoretical sophistication that I love it even though I do not agree with half of the arguments. But I must start by saying that I agree with its central premise.

Schneider argues that, although we have learned to believe that in the modern world there has been a disenchantment of knowledge and experience, supporting the development of a scientific worldview, there is ample evidence that enchantment remains a vital part of our culture. He contends that, as much as we do science, representing the world using clear categories whose referential meanings are unproblematic, we also seem to find pleasure in muddying the conceptual waters and asking the complicated questions that lead us to represent the world using categories

Permission to reprint a book review printed in this section may be obtained only from the author.



whose boundaries are unclear and whose referents may be multiple or just problematic. The latter he finds exemplified in cultural studies and particularly in the anthropological branch of it. (Geertz has pride of place here as an enchanter rather than disenchanter of social life; suggestively, a Balinese shadow puppet on the book's cover is the target of a scientist's gaze.) Schneider's historical argument about enchantment is a stimulating and useful antidote to the standard reading in sociology of Weber on rationalization, but the way Schneider maps it on science and cultural studies is much more problematic.

To put my criticisms of the book succinctly, from my research on oceanographers and my readings of the science studies literature, I contend that science is a much more "enchanted" enterprise than Schneider would have us believe. In fact, I would go so far as to say he is only capable of convincing readers otherwise because, when he actually describes science at all, which is rare (he usually only talks about it), he focuses almost entirely on 17th-century science, where any enchantment in scientific thinking can be dismissed as a marker of the immaturity of the science in that period.

Bruno Latour argues that science-in-the-making is quite unlike accepted science from the past. It is not a pristine world of clarity and testing of clear categories, but rather a messy world filled with conflicts, complex cognitive moves, and inconclusiveness. I have seen this in the hydrothermal vent research. The discovery of these hot springs on the seafloor might (for Schneider) serve as an example of clear prediction and discovery, but it was anything but that. Scientists had predicted that there would be hot water vents under water along fault lines before they found them, but they were totally unprepared for the mass of life they found arrayed around the vents. In fact, the colonies of clams, mussels, and tube worms were first photographed by a scientist doing routine survey work who had no idea he was seeing or documenting anything important. He put the photographs away until the vents were "discovered" by someone else. And then the trouble really began. How would the researchers study these things when they could not account for their existence? They tried all kinds of strategies. They did surveys counting populations and their distance from the vents. They compared growth patterns to water chemistry and heat. They looked at the bacteria in the tube worms and looked at their relationship to water chemistry and heat. They messed around measuring whatever they could until they found categories for explaining the phenomenon that would allow them to "know" what they were measuring. The problem was not one of the scientific maturity of the field; the problem was the incorporation of novelty into the culture of science. Life was supposed to be supported by sunlight and a food chain derived from it. These great colonies of strange beasts lived in the dark on the bottom of the ocean apparently feeding off scalding water filled with toxic metals. This was an enchanted world just the sort that Schneider sees in cultural studies, something that mystifies and sets off a search for and manipulation of categories of

meaning to make descriptive sense of perceptions. This is learning, plain and not so simple. It is a process filled with imaginings and findings, enchantment and disenchantment, messiness and clarity.

Let me give another quite different example from a philosopher who believes much the same as Schneider does about science and its virtues. Arthur Miller argues that the development of quantum mechanics depended on an enforced moratorium on visualization of atomic relations; the view of atomic particles derived from planetary models was inhibiting scientific progress. A new (and I would say enchanted) world of subatomic particles (eventually filled with "charm" and "color") could not be imagined with the visual systems of the period. Now Schneider would argue (as Miller did) that the mathematical descriptive models of these physicists were made clear and referential in precisely this move from the deceptive seductiveness of imagery and toward the purer and clearer categories of language and numbers. But if we make this argument, what does it say about the science that came before, the physics that was so thoroughly visualized that scientists felt deprived when they had to reject imagery? Like computer models, these images provided fictive spaces in which scientists could dream about problems before thinking about how to test them. These images helped scientists to think by positing the clear categorization systems that Schneider associates with science—just as rejecting that same visual regime later helped to bring more mathematical clarity to the subatomic world. Enchantment and disenchantment cohabit in the world of science.

I could go on and on with examples, but that is not my point. My point is that in proxy warfare, fights are exemplars of issues seated elsewhere. There are always absurdities to the skirmishes, because they mean both more and less than they seem to. The historically and philosophically drawn line between enchanted culture and disenchanted science in Schneider's book stands in for something else: the future of sociology. On this subject—recent social science writing, read modestly against the grain of its grand theorizing—the book is quite interesting.

Schneider sees problems in cultural analysis in social science that make him want to write, and he writes about it well. He is a tough and telling critic of Geertz. He has a fascinatingly complex reading of Oliver Sacks. His social understandings of the sources and consequences of Levi-Strauss's work I sometimes find breathtaking. And although I cannot say much about his approach to literary theory, I think he may betray in this chapter a lack of understanding of the role of language studies in cultural studies that could be a clue to the limits of this book.

What I wished for most, in reading this book, is that he had "brought the war home" and talked about cultural sociology itself. I wish he had been more willing to criticize and had more faith that we could take it. He sees hope in empirical work in the sociology of culture, but I do not know whose work he means. This "native" to his field would like to know what he thinks, but he prefers proxy warfare.

It may seem ironic to some readers who do not know me that, despite

my reservations, I want *all* my students in science studies and cultural studies to read this book. I would certainly tell them first about my theory of proxy warfare and make them read chapter 7 before they read the start of the book. But this is a profound book that says fascinating things about cognitive variations in the ways we learn, that revels in and struggles with the mythology of science that is tearing at the heart of sociology, and that admires enchantment but still probes the purpose of cultural studies. It asks, almost by mistake, about the fate of the 19th century promise of social science for the world of the late 20th century, where cultures are mixing and changing faster than before. It helps us to confront our problems by giving them historical location. In some ways, this book is almost better than we deserve—it is serious and honest, and it embodies the contradictions of our field and our times.

*The Rise of Early Modern Science: Islam, China, and the West.* By Toby E. Huff. Cambridge: Cambridge University Press, 1993. Pp. xiv + 409. \$54.95.

Benjamin A. Elman  
*University of California, Los Angeles*

The basic argument presented in this volume is that the fortuitous concatenation of Greek natural philosophy, Roman civil law, and rationalist Christian theology during the 12th-century Renaissance created an intellectual climate conducive for the emergence of the European scientific revolution in the 17th century. By comparison, the promising development of Arabic science before the 14th century was subsequently aborted by the power of the Islamic clergy to Islamicize foreign knowledge and to exclude natural science from the education curriculum in universities. Similarly in China, where the Song dynasty was well advanced in technology before the 13th-century Mongol conquest, the retarding influence of the imperial state and its civil service examination curriculum based on the Confucian classics prevented the emergence of autonomous institutions conducive to social legitimation of scientists' roles. Only in late medieval Europe did legal, social, and institutional revolutions occur that permitted the rise of autonomous universities in which study of natural science was legitimated by both state and society. Only in Europe did the requisite "neutral spaces for public discourse" appear that "created structures of action and agency" conducive for growth of the impartial and skeptical "ethos of science."

Adopting what Huff calls "civilization frames of reference," this book describes "cultural climates" in medieval Europe, the Islamic world, and imperial China that abetted or hindered the emergence of modern science in each cultural region. The cultural trajectories of Christian Europe, Islamic Asia, and Confucian China are examined according to their affinities with the roles of scientists in society, the development of

social norms of impartiality and legitimate skepticism, and the elaboration of an autonomous reward system controlled by professional members of scientific communities. Islamic breakthroughs in the study of the natural world were initially advanced because of input from Greek and Indian natural philosophy and mathematics. In the fields of optics, astronomy, and medicine, Islamic scholars were important pioneers, but the fate of the Marâgha Observatory, which flourished in Tabriz between 1259 and 1305, is typical, according to Huff, of the short-lived success of Islamic science. Clerical power based on Islamic mysticism, fundamentalist appeals to sacred law (*shari'a*), and the inherent elitism and secrecy of Islamic elites over the long run created obstacles that effectively prevented the emergence of modern science. In China, social and political elites had access to the fruits of Islamic science in the Mongol era, and they had access to European science through the Jesuits in the 17th century. Despite their technological head start in the Song dynasty, the Chinese were unable to break through roadblocks erected by the imperial state (which imposed secrecy on state astronomers and mathematicians) and the alternative and more appealing reward system (based on competitive examinations to become a Mandarin official) that diverted incentives toward study of the Confucian classics and away from the precise study of natural phenomena. In Europe, according to Huff, the late medieval "legal, social, and institutional revolution" singularly provided fertile ground for planting seeds for modern science in the 12th century that grew to maturity in the 17th century.

Huff's history of European, Islamic, and Chinese science focuses on the intellectual history of natural philosophy in cultural and social context. By rejecting Joseph Needham's claim (in *Science in Traditional China* [Cambridge, Mass.: Harvard University Press, 1981]) that there is no meaningful distinction between science and technology, Huff too conveniently concludes that experimentalism after Galileo was not the driving force in the birth of modern science and that in China technological superiority had little to do with Chinese natural knowledge. By sowing the seeds of scientific revolution in Catholic culture before the Protestant Reformation, Huff presents the "symbolic technology" of late medieval Europe as the key to that revolution without fully coming to grips with the problem of why it took over five centuries for European natural philosophy to begin to produce the industrial revolution. In the final analysis, therefore, Huff's otherwise thoughtful comparative history of science essentializes science as a universal mental exercise practiced in neutral institutions within an open society. The intellectual revolution—its philosophical roots and cultural context in Catholic Europe—is not properly framed in light of the later political and industrial significance of the scientific revolution in Protestant, northwestern Europe. In surgically eliding technology and industry from the problem of the scientific revolution, Huff thus avoids coming to grips with the "Protestant" history of science and industry as elaborated by Margaret C. Jacob in

*The Cultural Meaning of the Scientific Revolution* (New York: Knopf, 1988) or the actual practice of science as described by Bruno Latour in *Science in Action: How to Follow Scientists and Engineers through Society* (Cambridge, Mass.: Harvard University Press, 1987). Moreover, without technology, the history of science in Catholic Europe, the Islamic world, and imperial China is limited to the domains of Catholic, Islamic, and Confucian institutions. Huff's comparison of Catholic Europe, Islamic Asia, and Confucian China in terms of natural philosophy and educational institutions is timely and rewarding, but his conclusions are still insufficient to understand fully *why* elites and commoners in Europe, the Islamic world, and China were interested in the natural world and *how* they actually created and applied their natural knowledge before the scientific revolution.

*The Sources of Social Power. Volume 2: The Rise of Classes and Nation-States, 1760–1914.* By Michael Mann. New York: Cambridge University Press, 1993. Pp. x + 826.

Chris Sparks  
University of Westminster

*The Sources of Social Power* is the second part of Mann's analysis of the social construction of power. Its goal is to locate the dynamic sources of power in the developing nation states from the 18th to the 20th century.

The basis of Mann's analysis is that societies are shaped by the constant interplay between economic, ideological, military, and political power. In this work, he examines this interplay and presents an argument that the dominant forces shaping Western societies in the 18th century were economic forces and military power, while those of the following century were economic and political forces.

In making his case, Mann pinpoints five significant historical events in which, he argues, the sources of dominant power were revealed either in the successful defense of the sociopolitical status quo or in its effective defeat by challenging sociopolitical groups. In employing this method, he avoids the trap of attempting to present the whole period and so does not fall prey to the simplifications and sweeping generalizations that have beset so many large-scale "histories of the nation state."

Aware of the complexity involved in the structuration of orders of power, Mann sets out the economic, ideological, military, and political features of social order as distinct but often interrelated sources of power. Having set out the complex scenario of power in ahistorical, sociological terms, he analyzes their involvement in the production of orders of power within each of his selected historical scenarios. The method of analysis is an interesting attempt to practice an integration of a diachronic portrayal of human action with a synchronic analysis of processual move-

ments. Following Alain Touraine and Anthony Giddens, Mann recognizes that both qualify as objective features of social constructions of orders of power. He also makes it clear that the understanding of both is vital to understanding the historical moment of a society's existence.

Though power scenarios as reconstructed from either the diachronic or synchronic perspective are partial, and to some degree mutually exclusive, Mann's detailed presentation of events highlights the interplay of ideas, political action, and socioeconomic processes; in doing so it serves his argument well. For example, in chapter 6 he seeks to place the role of the *philosophes* in the context of the economic and military crisis of France's ancien régime. Their major ideas are presented in their social dimension, as arguments for economic reform and modernization of the state. These ideas, combined with their onslaught on the church, are placed in the context of fiscal crisis and military defeat, highlighting their confusing effect on policymakers and their generation of divisions between the monarch and the church and between the state and the "class of privilege, its traditional pillar" (p. 180). This contextualization of ideas in socioeconomic processes gives some weight to Mann's contention that economic and military spheres were the definitive location of ideological and political power.

As his methodology indicates, Mann wishes to continue the Weberian critique of the shortcomings of Marxist monocausalism with regard to analysis of the sources of power. In this respect the work, far from being novel, continues to work with outmoded and problematic conceptualizations. Most notably it retains the organizing manifold of class conflict, the common territory on which the Weberian/Marxist debate can be held. The theoretical inflexibility of the manifold class conflict has long been evident. The concept pulls those who use it as a primary organizing concept toward reductionism: action is viewed as the indicator or servant of process. This imbalance is avoided to some degree by Mann's scrupulous attempts to stress the interaction of ideas and processes; however, his stress on framing the historical conditions for such interaction often merges with presuppositions that such conditions are to be viewed as actual or potential conditions of social classes (see p. 167). The result is most evident in Mann's eventual reduction of Enlightenment theory to ideology and the status and political import of the theorists to their position in the social hierarchy. This particular case is important as the function of these theorists, as an "ideological elite" (p. 203) necessary for the emergence of the bourgeois class, is constantly stressed throughout the core chapters of the book (see chaps. 5, 6, and 7). Having noted this reductionist tendency, one cannot but lack confidence in Mann's general presentation of the interplay of theory, political and military action, and socioeconomic process.

Despite this central difficulty, the detail and scale of the work ensure that readers will find it informative and useful. Perhaps its greatest value is as an exercise in attempted application of Weberian methodology. Considered as such, it is intriguing and educative.

*Max Weber's Comparative-Historical Sociology.* By Stephen Kalberg. Chicago: University of Chicago Press, 1994. Pp. xi + 221. \$47.50 (cloth); \$18.95 (paper).

Keith Tribe  
Keele University

Comparative history is once more enjoying a revival. From the writings of Barrington Moore through Perry Anderson, to Michael Mann and Paul Kennedy, major books that present a wide sweep of time across many nations are clearly in demand. Such an approach has a long and respectable history, of course; the difference today is that this form of writing has gained the allegiance of sociologists seeking to counter the mechanical and superficial systems theory of the 1950s and early 1960s. Max Weber occupies a curious position in this: once the founding father of systems theory, he has now been reconstituted as the founding father of comparative-historical sociology. Stephen Kalberg's book seeks to consolidate this position through an exegesis of Weber's contribution to this form of sociological inquiry. In so doing, he sets out three distinct approaches to comparative-historical sociology: world systems theory, chiefly associated with the work of Wallerstein, in which historical material is marshaled to illustrate a simple core-periphery developmental model; the interpretive historical approach, exemplified in the work of Bendix, Charles Tilly, and Michael Mann, who explore the development of specific institutions across time and space; and the causal analytic approach, as in the writings of Barrington Moore and Theda Skocpol, whose principal aim is the construction of explanatory theories using historical materials. There remain, suggests Kalberg, unresolved problems for comparative-historical sociology both within and between these approaches. First among these is a failure to link agency and structure, subjective meaning and social action. Second is the insistence, in the world systems and causal analytic approaches, on a unilinear causality. Third is an uncertain relationship between history and theory. Linked to this is the fourth problem, a reluctance to develop appropriate models together with a lack of clarity concerning the causal force of the narratives which each approach develops. These problems, he considers, can be both identified and resolved through the study of Weber's own historical sociology. And this is the task the author sets for himself.

That said, it becomes difficult to present a detailed account of the manner in which this task is executed, since each problem is dealt with in turn by marshaling passages from Weber's writings under the assumption that these were primarily and uncontroversially intended to form the basis for a comparative-historical sociology. Thus, for example, we find *Economy and Society* described as "Weber's attempt to systematize the knowledge acquired from his case studies into ideal types. All are designed to aid sociologists engaged in comparative-historical work" (p. 90). Unfortunately, continues Kalberg, this work is poorly organized,

and so this intention is not always evident: "Weber never informs the reader of his goals and this opus is organized along thematic and procedural lines only marginally" (p. 90). Even if the corpus of writing that we know today as *Economy and Society* were a finished piece of writing (that rare commodity in Weber's published works), even if it had not been rearranged and retitled by others, the fact that it was part of an encyclopedic project edited by Weber and entitled *Outline of Social Economics* might cast some light upon its purpose, structure, and limitations. This thought leads directly to another: that Weber did not embark upon his studies of religion and social organization as a "sociological project" in any modern sense, but as a means of understanding the formation of modernity distinct to that espoused by, for instance, Werner Sombart, von Below, or Ernst Troeltsch. An understanding of the distinctiveness of Weber's intentions and of his actual writings has to be based on systematic comparison with those thinkers, writings, projects, and debates from which he marked himself off and from which he borrowed, consciously or unconsciously. After all, if we are in the business of "comparative-historical sociology," some basic historical method is in order. Instead, we find Weber marshaled according to an agenda set by modern sociological commentary upon Weber: the bibliography is made up almost exclusively of modern sociological interpretations, on the one hand, and Weber's own texts on the other, which are organized by the problems and concerns of a modern sociology, not by those of Max Weber, whose interests were not only wider—they were different.

*Power without Force: The Political Capacity of Nation-States.* By Robert W. Jackman. Ann Arbor: University of Michigan Press, 1993. Pp. xiii + 194. \$14.95 (paper).

Michael Barnett  
*University of Wisconsin—Madison*

The ability of states to command some degree of legitimacy from and control over society has been particularly topical since the end of the Cold War and the growing realization that states face greater threats from their own societies than they do from other states. Robert Jackman's highly readable and concise *Power without Force: The Political Capacity of Nation-States* surveys and contests past approaches to political capacity in an attempt both to understand the factors that underwrite state strength and political capacity and to offer some empirical indicators to overcome past operationalization difficulties and impediments to generalization. The book's strength is its ability to summarize and overcome some of the theoretical and operational shortcomings associated with the earlier modernization and political development approaches to political capacity; its weakness is its failure to adequately incorporate and consider



the past decade's prolific scholarship on the state and how that work might have assisted rethinking the concept of political capacity.

Jackman opens by providing an overview of the virtues of the early development and modernization literature, claiming that it was unfairly stereotyped and that it offers valuable guidance for understanding the nature of state strength. Chapter 2 discusses the concept of political capacity, which he defines as "the creation of *institutions* that are surrounded with some aura of legitimacy" (p. 38; emphasis in original). I would like to make two comments on this definition. First, this definition deviates from the core of the past decade's state-capacity literature that largely concerned the state's ability to extract from, control, and steer society. Second, while the definitional emphasis on the *creation* of legitimate institutions suggests an interest in the causal mechanisms that produce state legitimacy, Jackman's primary concern is evaluating whether or not a state has legitimacy and not how it comes to be viewed that way. In chapter 4, Jackman's description of the institutionalization process draws heavily from and nicely summarizes the potential contributions of organizational theory and Weber's discussion of charismatic leadership. In chapter 5 he considers the relationship between legitimacy and political capacity and argues that legitimacy exists when citizens identify with the state. This identification generates consent, which is based on two factors: (1) whether the state can govern without resort to violence and (2) the degree to which challenges to the state are processed through normal channels. A later chapter offers parallel indicators of political capacity via state violence and the number of deaths from political violence, respectively.

Chapter 3, which offers a survey of recent approaches to the state, is indicative of the book's unsatisfactory treatment of the array of theoretical perspectives offered on the state since the 1980s. Perhaps most glaring is Jackman's characterization of the state autonomy literature. First, he dismisses it because it supposedly equates "state" with "government"; while this tendency is true of some contributions, it seems a poor reason to dismiss an entire body of work. Second, he fails to recognize how this literature's view of state legitimacy and state strength is quite different from that of modernization theory; specifically, the autonomy literature is not concerned with capacity per se but rather with the degree to, and conditions under which, state action is not reflective of the interests of dominant social classes and groups. In fact, Jackman might have profitably considered how his interest in political capacity as legitimacy is related to the earlier state autonomy literature that focused on how a state that operates to the benefit of the dominant classes is able to maintain societywide legitimacy. Third, early in the book he charges that those who use the concept of autonomy do so as if "it referred to an all or nothing quantity—institutions are either autonomous or they are not" (p. 33). This, of course, completely misses the very emphasis on the *relative* autonomy of the state.

Moreover, more fully engaging and incorporating recent state scholarship might have enhanced his understanding of state capacity and its possible indicators. For instance, although Jackman briefly discusses the relationship between state strength and extractive capacity, he does not fully consider how the latter has been successfully adopted by a diverse group of scholars, including Margaret Levi, Michael Mann, Charles Tilly, and Goran Therborn, to gauge the state's legitimacy, capacity, and autonomy from society. Because he largely ignores a decade's scholarship on the state it is difficult to accept his conclusion that his concept of political capacity represents the best alternative for considering issues of state strength. Also highly debatable is his conclusion that recent discussions on political development and state capacity "recommend little more than retreat into historicism, a denial that generalization is feasible or even desirable" (p. 155); this unjustly characterizes many who have forwarded more nuanced and historically sensitive understandings of political development and state power. Notwithstanding these shortcomings, Jackman's compact and well-argued essay offers both a useful statement on modernization literature's understanding of political capacity, and some valuable ideas for reformulating and updating this tradition.

*The Decomposition of Sociology.* By Irving Louis Horowitz. New York: Oxford University Press, 1993. Pp. 282. \$35.00.

David G. Wagner

*State University of New York at Albany*

When I first came to sociology in the 1960s, Irving Louis Horowitz was something of an icon to those of us who were active in the political and social movements of the time. His radical critiques of established sociology were revelatory. Indeed, many in my generation adopted sociology as a vocation specifically because Horowitz (and others) had provided guideposts toward a new, more socially committed sociology.

Horowitz continues to challenge sociological orthodoxy. His new book suggests that our discipline is fast approaching the status of Gertrude Stein's Oakland: "There's no there there." Newer disciplines have captured many of the most valuable forms of sociological analysis. What remains is rotting. Sociology is becoming crude and beholden to established interests. Sociologists are becoming irrelevant to modern interdisciplinary investigations of social problems and issues. Once more a new sociology is needed, and Horowitz aims to provide a program of treatment to revitalize our faltering discipline.

The form of presentation is similar, but this is not the Irving Louis Horowitz I remember. The focus of his critique has changed dramatically. Horowitz argues in one chapter that sociology has been co-opted and politicized by the ultra left. In another he describes how the authoritarianism of left fascism has come to dominate much of sociology and to

destroy its legitimacy. He decries an extreme subjectivism that denies sociological realities. He takes multiculturalism to task for obscuring the cultural canons of modern democratic society. To be sure, there are some traditional targets. He criticizes rational choice theory (primarily in the form of James Coleman's *Foundations of Social Theory*) for imperialist pretensions. Nevertheless, the orthodoxies Horowitz now challenges rise primarily from the social and political left, not the right.

Has Horowitz become a neoconservative? No, I believe not. Throughout his jeremiad, Horowitz takes care to distinguish the excesses of current sociological thought and practice from the underlying sociological issues and commitments out of which they grew. Thus, the translation of actors' subjective realities into objective social conditions is an issue of legitimate sociological concern; a denial that social reality is anything but subjective is not. Similarly, the exploration and appreciation of the sources of different cultural values is at the core of sociological understanding; pontification about which set of cultural values is correct undercuts our more basic commitment to the sociological values that helped us reveal these differences.

Further, Horowitz has a program of action to reconstruct the discipline. The first step is to overcome the balkanization of the discipline by examining the actual conditions of professional social life in the histories of real societies. The next is to locate a broad field of study for the investigation of normative issues. Horowitz suggests study of the social meaning of life and death (e.g., the purposes of genocide) as a candidate field. We can then turn to the rejuvenation of national policy by reintegrating the foreign and domestic concerns we have artificially separated, socially and intellectually. Finally, we must treat advocacy as a potential consequence of sociological investigation, not as its cause. With this approach we can regain a sense of the moral dilemmas that confront everyday social life.

All of this strikes me as vintage Horowitz. His vocation has not changed; the barriers to the pursuit of his calling have. The challenges to responsible social analysis and policy in the 1990s are different from those of the 1960s. *The Decomposition of Sociology* shows that Horowitz is flexible enough to adapt his stance to meet those new challenges. Whether this entails attacking the shibboleths of the right or the left is irrelevant.

Horowitz presents his argument a little too apodictically at times, especially for those not already familiar with the points in debate. I also believe he underestimates the value of abstract formulation of sociological problems and questions. Nevertheless, for the most part his diagnoses of our sociological ills and his prescriptions for alleviating them are effective. He writes with clarity, power, and imagination. He intends to disturb, enlighten, and motivate us, and he succeeds unerringly. Whatever our sociological persuasion, we must attend to the problems he has identified and the solutions he has proposed. The book is provocative, entertaining, and informative; it should not be ignored.

*State and Society in Contemporary Korea*. Edited by Hagen Koo. Ithaca, N.Y.: Cornell University Press, 1994. Pp. viii + 258. \$32.50 (cloth); \$13.95 (paper).

Gi-Wook Shin

*University of California, Los Angeles*

The political economy approach has dominated studies of socioeconomic and political changes in contemporary Korea. The interplay of the state and world system in the Korean "economic miracle" has especially received scholarly attention. The state and market were without doubt crucial players in the Korean transformation, but a more sociological factor, civil society, has remained largely unexplored. *State and Society in Contemporary Korea* examines the essential but neglected relation between state and society as key to understanding socioeconomic and political changes in contemporary Korea. The book demonstrates that "Korea's path to modernity and industrialization has not been a smooth evolutionary process but rather a discontinuous, uneven, and conflict-ridden one determined . . . by historical contingencies and a dialectical process of social change" (p. 231).

Chapter 1, by Jang Jip Choi, presents a historical analysis of political cleavages in South Korea since independence. He argues that three major conflicts, involving issues of democracy, economic justice, and reunification, appeared in historical sequence and have shaped political dynamics in South Korea, generating cycles of mobilization and demobilization of civil society. He proceeds to show how these issues emerged as principal axes of social conflict at given historical junctures and shaped state-society relations.

Chapter 2, by Stephan Haggard and Chung-in Moon, focuses on institutional factors during the Korean economic transformation, including the autonomy and capacity of the state, its internal decision-making structure, and the broad political context affecting Korea's developmental strategies. The authors also provide an insightful analysis of the political implications of economic policies, such as the effect of economic liberalization on political democratization in the 1980s.

In chapter 3 Carter Eckert discusses why the Korean capitalist class, despite its enormous economic success, has failed to obtain hegemony in Korean society. Several factors are identified: the historical context in which capitalism was first introduced to Korea at the turn of the century, heavy moral expectations placed on capitalists' role for the nation, the collaboration of Korean capitalists with the Japanese, the greedy manner in which big business accumulated wealth at the expense of smaller enterprises, and their poor record in making material concessions to the working class. Still more crucial was capitalists' reliance on excessive state protection and their support for authoritarian regimes. Accordingly, insofar as those regimes lacked political legitimacy, big business leaders lacked social and moral authority.

Hagen Koo's chapter 4 shifts the focus from the capitalist to the working class. Noting that a major consequence of South Korean industrialization was the rise of a large working class and its impressive development in terms of class consciousness and organization, Koo discusses how labor conflicts have shaped political struggles toward democracy. He also attends to the *minjung* ideology (the Korean version of populism) that provided workers with "leadership, a new language, and organizational shelter, thereby broadening their scope and the objectives" (p. 162).

Chapter 5, by Uchang Kim, shows the relation between culture and politics in Korea. Noting that Confucian orthodoxy "placed culture above politics" and believed "culture would work for the state through society, not through direct political intervention" (pp. 163–64), he examines contemporary Korean literature that has been used in political and ideological struggles. The continuous process of politicization and depoliticization of Korean literature, he concludes, is a consequence of ongoing struggles over culture in the ideological terrain of civil society.

In chapter 6, Bruce Cumings shows that the remarkable political stability of North Korea cannot be adequately understood in terms of such conventional categories as totalitarianism, proletarian dictatorship, or personality cult; it is better explained by socialist corporatism that includes familism, nationalism, voluntarism, and heavy reliance on a strong leader. He emphasizes that the North Korean version is based on diverse elements drawn from the Soviet and Chinese models, traditional Korean culture, geopolitics, and past experiences of independence struggles.

Koo's introduction and conclusion summarize the main theoretical and empirical issues relevant to examining relations between the state and society in contemporary Korea. In particular, Koo's discussion of the links between the Korean War and state-making and his discussion of how South Korea's civil society—unlike Western societies—arose "not under the leadership of the bourgeoisie, but in opposition to it" (p. 246), are informative and should be of great interest to historical-comparative sociologists.

This book is clearly written and well edited. It represents views of prominent scholars in the field from an interdisciplinary perspective that includes history, political science, and literature as well as sociology. In fact, this book is overdue. Koo has done an outstanding job of accomplishing the book's main goal, that is, to understand contemporary Korea from a more balanced view without falling into unproductive debate over the merits of state-centered versus society-centered approaches. This book should be read by those working in political sociology, comparative-historical sociology, sociology of development, or East Asian studies. It can also provide excellent reading for upper-level undergraduate courses or graduate seminars in these areas.

*Work and Inequality in Urban China.* By Yanjie Bian. Albany: State University of New York Press, 1994. Pp. xii + 286. \$16.95.

Tak Chuen Luk  
*University of Chicago*

Bian's book deals with the structural inequalities produced by a distinctive institutional feature of socialist China—work organizations that provide not only salaries and employment but also a wide range of goods and services for employees and their families, and most significantly, political rewards in the form of party membership and cadre positions. The author examines the origins of the unequal distribution of resources and opportunities among work organizations, and its impact on the social stratification of urban workers in China. On the interfirm level, he argues, "workplace segmentation is an institutional expression of government interests" (p. 209) in socialist China. Multiple ideological, national, and control interests determine the allocation of opportunities and resources among work organizations. State enterprises and work organizations located in high bureaucratic rank or in economic sectors with government priority are more likely to have better opportunities and resources, which can benefit the material and political well-being of their employees.

A distinctive contribution of this study is a redefinition of inequalities in the context of state socialism. Apart from the wage nexus of market economies, work inequalities in state socialism are manifested not only in terms of wage differentials, but more importantly, in the differential access to collective consumption and to political and organizational incentives. Since these opportunities and incentives are allocated primarily through the workplace, the socialist workplace thus represents an important determinant of social status, defining the social class position of individuals. Another focus of this study is the nature of the status attainment process at the individual level. The relative importance of individual and organizational variables is assessed to determine whether there is any transformation in the attainment processes in the transformation to a planned commodity economy.

Drawing basically from a survey of urban Tianjin residents that the author conducted in 1988, Bian successfully integrates policy analysis at the national level and interviews at individual level to provide illustrations and statistical verification of the arguments that he proposes. The availability of data at the collective and individual levels enables him to decompose the statistical effects of workplace variables and individual variables. There are a few major findings. First, the data confirm that the influence of workplace characteristics on the distribution of wages, access to collective consumption, and political and organizational incentives remains the same before and during reform. Second, after the implementation of market reform, party membership attainment is increasingly affected by education and by the organizational position of

individuals, which makes Bian suggest that "party clientalism has given way to a theory of human capital" (p. 144). Third, while the salary structure retains many characteristics of the traditional reward system, the growing bonus differentiation in economic reform deserves more attention. Education has higher returns on bonus level. Female workers, rank-and-file workers, and government bureaucrats are marginalized in receiving bonus, while those in enterprise managerial positions are better off.

I have three reservations about this book. First, the predominance of institutional-structural reasoning precludes the dynamic aspects of hidden bargaining of collectivities and individuals that may enable them to improve their position in the institutional structures. On one hand, institutional structures constrain the actions of collectivities and individuals. On the other hand, they provide rules and opportunities that collectivities and individuals can manipulate in pursuit of their interests. The discussion of social networks and personal relationships in job searches and party membership attainment dichotomizes institutional structures and informal practices, thus overlooking the possibility that the two can be fused in the bargaining processes. Second, it is hard to determine whether the impact of market reform on status attainment processes is produced by market selection or is a structural consequence of a prescriptive institutional reform. Hence, the importance of education in the attainment process may not be performance related but may be another credentialist institution that replaces the seniority and political rules. Third, provided with the wide scope of political, organizational, and human capital variables in this study, the author could have been more theoretically assertive, engaging in debates with various class and stratification theories. The potential now exists to develop a theory of social class in urban China.

These weaknesses notwithstanding, this book must be praised as empirically rich, analytically clear, and theoretically informed. Anyone concerned with coming to a more comprehensive and systematic understanding of the institutional structures and structural inequalities of urban China must read it.

*State and Business in Modern Turkey: A Comparative Study.* By Ayse Bugra. Albany: State University of New York Press, 1994. Pp. xi + 328. \$19.95.

Roderic Ai Camp  
*Tulane University*

In the age of economic and political liberalization, the relationship between political and economic leaders is a timely topic. Bugra explores the linkages between businesspeople and the state and the consequences of these ties for Turkish economic development. Bugra makes a strong

case for examining his topic through an eclectic approach that borrows from mainstream state-business models and neo-Marxian theories. This proves to be a wise choice.

In his introductory chapter, Bugra offers a number of observations about Turkish businesspeople that might well apply to other private-sector entrepreneurs in Third World countries where the state played a critical role in economic development and where the private sector historically was weak. Among these broader generalizations, Bugra mentions the lack of self-confidence among businesspeople in terms of their economic mission, the lack of prestige of business as an acceptable economic activity, the codependence of businesspeople with the state, the role of business organizations as channels for state-economic alliances rather than institutional representation of business interests, the operation of companies by owners rather than professional management, and the emphasis businesspeople give to better relations between the state and the private sector, rather than the reduction of state intervention in the economy. Many of these same characteristics can be found, for example, in the Mexican case, despite its rather marked changes in economic liberalization in the last five years.

One of the important focuses of this work is the importance of culture in explaining economic behavior. Bugra suggests, correctly, that scholars often overlook similarities in culturally different social settings. One of the most important of these similarities in Middle Eastern and Latin American societies, affecting economic and social behavior and linkages between businesspeople and the state, is personal networks. As Bugra concludes in his chapter on the political context of business activity, "Turkish businessmen try to maximize the opportunities and avoid risks that stem from the policy process, relying more on relationships of personal trust than on their professional organizations to overcome their difficulties" (p. 169).

The book is well researched and makes heavy and valuable use of some 40 interviews with Turkish businesspeople. Bugra has written a detailed study of the Turkish case, covering a brief history of private business, the larger context in which business must operate, and the social roles of Turkish holding companies and business associations. He also argues, throughout the work, that the Turkish state itself is the major risk factor contributing to business outlook and behavior.

This work will be useful for drawing comparisons with similar cases and for supporting broader arguments that most developing economies share a number of similarities, often originating from cultural patterns or historic structural conditions. Although Bugra attempts to place the Turkish case in a larger context, especially drawing comparisons with Asian countries, his study would benefit greatly from comparisons with other cultures, particularly elsewhere in the Middle East and in Latin America, given the state-economic patterns found there. Bugra's brief concluding chapter needs to be broadened and deepened, drawing material from outside Turkey to develop the larger significance of the conse-



quences of the peculiar as well as the universal characteristics of political-economic relationships found in the Turkish case.

*The Sicilian Mafia: The Business of Private Protection.* By Diego Gambetta. Cambridge, Mass.: Harvard University Press, 1993. Pp. 335. \$39.95.

Peter Kollock  
*University of California, Los Angeles*

For over 100 years the Sicilian Mafia has had a stranglehold on southern Italy. The outcome has been a region marked by chronic violence and a depressed economy. How can one understand the Mafia and its longevity? With its strange rituals, symbols, and norms, it is easy to see the Mafia as a bizarre, nonrational entity. In contrast, Diego Gambetta, in this fascinating and impressive book, seeks to make sense of the Mafia in simple, rational terms.

While the label "mafia" has been loosely applied to any group of criminals, Gambetta uses it precisely. For him the Mafia is a kind of economic industry and its product is private protection. In a world where trust is scarce and the official enforcement agencies are ineffective (a perfect description of southern Italy, according to Gambetta), the *mafioso* acts as a guarantor of transactions. That is, the Mafia provides a perverse solution to a "lemons" market. It is a solution that many people willingly accept and seek out, in contrast to the stereotype that the Mafia is concerned solely with forced extortion. But it is a perverse solution because the protection provided is neither fair nor universal and leads to great violence and abuses of power. Gambetta argues that, tragically, the situation in Sicily is an equilibrium in which no one has an individual incentive to behave differently, even if they are opposed to the Mafia.

In making his case, Gambetta relies on a number of sources of data: transcripts of confessions, records of trials, interviews he conducted with businessmen in Palermo, and field observations of a number of different markets. Ideally, one would also like interviews with the *mafiosi* themselves, but Gambetta was in the unusual position of needing to balance the desire for better data with the desire to live long enough to report it. Indeed, he was forced to curtail an interesting analysis of the Palermo fish market because of the danger of asking any more questions.

The book is divided into three major sections. The first is a theoretical analysis of the Mafia and the market for protection. Here he builds his basic argument that the Mafia is best understood as a set of firms specializing in the supply of protection. The second major section is an analysis of the origins and organization of the Mafia. Trying to understand the source of chronic distrust in southern Italy and why the Mafia developed only in certain areas is a huge undertaking. Gambetta reviews prior work and makes his own interesting contribution, but ultimately it is

an incomplete story that awaits further research. His description of the organization of the Mafia and its norms and symbols is fascinating and filled with interesting insights into how *mafiosi* promote themselves and manage the risks of their profession. For example, as a way of guarding against the problems of "counterfeit" *mafiosi* (a real possibility because of the benefits that come from appropriating the Mafia trademark), a member may not introduce himself to another "man of honor." A third party who knows them both must make the introduction and act as a guarantor.

The final section provides empirical examples of how the Mafia supplies protection. Particularly interesting is a comparison of the Palermo fish market—which is firmly under the control of the Mafia—with the Palermo fruit and vegetable market, in which there is a great deal of unfettered competition and a low demand for the services of the Mafia. Briefly, Gambetta argues that the explanation for the difference rests on the relative ease of monopolizing the various markets. The agricultural markets are much less vulnerable to control because of the large number of producers and routes of transportation. That is, there are few bottlenecks in this market, in contrast to the fishing industry. It is an analysis that has deep implications for the organization of markets, both illicit and legal.

In the end this study calls out for a comparative case. This is especially true because Gambetta tries to build a model that is subject to empirical testing and falsification. Two possibilities are suggested by brief comments in the book. The first is the Yakuza of Japan, who share a number of similarities with the Sicilian Mafia but are also marked by many significant differences. The second case—Russia—seems even more promising. Gambetta observes that there are striking similarities between 19th-century Sicily and present-day Russia: a dramatic increase in the number of property owners, a state that is unable to deliver genuine protection, and a surplus of people with the necessary skills for the protection market (ex-soldiers, athletes, police, etc.). The frightening implication is that Russia might move toward a tragic and violent equilibrium similar to Sicily, but on a much larger scale. A comparative study of the protection markets in Russia and Sicily would be tremendously interesting, but also very difficult and dangerous—the project awaits a Russian sociologist with the same skills and determination as Gambetta.

If there is a limitation to his analyses, it is that at times the discussion becomes very speculative. Gambetta's speculations are always interesting and usually convincing, but one misses the grounding in data that characterizes most of the book. However, given the extraordinary difficulty of getting firsthand information from the *mafiosi* themselves, he has done an outstanding job of gathering and analyzing the data that were available.

In sum, this book is a tremendous achievement. It is distinguished by its lucid and lively writing. This book also stands out in its combination of rational choice theory and qualitative field methods—an unusual

though useful approach. Gambetta has gone further than anyone before him in understanding the Mafia and its unfortunate longevity. He has also made an extremely innovative and important contribution to the rational choice literature.

*Dimensions of Law in the Service of Order: Origins of the Federal Income Tax, 1861–1913.* By Robert Stanley. New York: Oxford University Press, 1993. Pp. xii + 331. \$45.00.

John L. Campbell  
*Harvard University*

The rhetoric of politics is often neglected by social scientists who study policy formation in modern democracies. Thus, this book is a welcome addition and an important reminder that politics is often as much about symbolic display as it is about the allocation of resources and power.

Robert Stanley, a historian, shows that the U.S. Congress initially adopted the income tax during the Civil War to counter the image of an overall fiscal system, based largely on tariffs, that benefited the rich, who profited from the war at the expense of lower classes who, in turn, bore a disproportionate share of the tax burden. This established precedent for the subsequent use of the progressive income tax as a symbolic tool to legitimize an otherwise regressive tax system that was used to subsidize the expansion of American capitalism during the late 19th and early 20th centuries. Indeed, throughout this period the proportion of total revenues collected through the tax was trivial and had no significant effect on the distribution of income or wealth. Once the initial income tax lapsed after the war, political elites resurrected it to calm social dissent that gathered momentum in response to periodic depressions and the centralization of political and economic power. Moreover, Stanley argues that in contrast to much pluralist or class analytic historiography the chief impetus for federal income taxation came from political elites who wanted to preserve these "centrist" tendencies, not from wealthy or grassroots constituents. As a result, this book fits into the so-called state-centered literatures of sociology and political science, although with a unique symbolic emphasis.

Stanley's argument is based on a rich set of data, including congressional testimony, floor debates, speeches, academic and popular periodicals, and roll call votes, that provide many insights. For instance, the Sixteenth Amendment to the Constitution, which was passed in 1913 and permitted Congress to institutionalize an individual income tax, received strong bipartisan support in Congress in part because most political elites felt that the vast majority of Americans would remain exempt from the tax and that it would touch the rest very lightly. Furthermore, ratification proceeded quickly and without the regional political cleavages that con-

ventional historiography might predict. In short, there is substantial evidence that the income tax was not intended to threaten private property or congressional power, but to preserve the status quo.

In the end, the story Stanley tells resembles the revisionist accounts of U.S. political history as elaborated by Gabriel Kolko, James Weinstein, and others who argue that political reforms reinforced and stabilized centrism. Stanley differs from them, however, in his claim that political rather than business elites initiated these changes. He may be right, but his attention is so thoroughly focused on the dynamics and conflicts occurring *within* the state over taxation that we do not get a clear picture of what the relationships were between political elites and groups outside the state. This does not mean that he failed to address which class, regional, and other interest groups supported various income tax proposals. In fact, he examines these issues in considerable detail. However, he does not explore the institutional, financial, political, and other *connections* between key political elites and these important constituencies. The same is true for the relationships between political elites and influential academics and journalists who were apparently an important source of ideas and intellectual inspiration. Thus, although there is substantial indirect evidence that politicians took the lead, we can never be sure.

This lack of direct evidence is important theoretically. Stanley suggests that political elites acted with considerable autonomy from class and other external group pressures because economic elites were often divided politically and insurgency among the lower classes was unfocused. However, this autonomy was only "relative," he argues, because it was constrained by "class anxiety" as manifested, for example, in riots, strikes, and populist mobilization. Hence, political elites were the only ones who could take the initiative and devise tax policies that would help preserve social order. But failure to explore the connections between political elites and social groups makes it hard to know how much autonomy these elites really enjoyed within the constraints of class anxiety. The fact that political elites finally institutionalized the income tax through a constitutional amendment, a strategy designed to build consensus between Congress and a Supreme Court that had ruled the tax unconstitutional in 1885, is a stronger indication of state autonomy—or at least of autonomous state interests at work.

In any case, the central message remains an important and well-documented one. The early history of the income tax was not an effort to redistribute wealth, but to maintain political stability through the symbolic manipulation of the law. Of course, the irony is that a tax that was used largely as a symbolic tool through 1913 became the most important source of federal revenue a generation later.

*Conflict, Competition, or Cooperation? Dilemmas of State Education Policymaking.* By Douglas M. Abrams. Albany: State University of New York Press, 1993. Pp. xix + 227. \$16.95.

Peter W. Cookson, Jr.  
*Adelphi University*

In the last decade educational policy formation has become big business; policy players come from all sectors of society, and they play for high stakes: As recently as December 1993, the philanthropist Walter Annenberg pledged 500 million dollars to the improvement of public education. Leaving aside the issue of whether or not public education ought to be considered a charity, Annenberg's gift signals that the condition of American education is considered to be so grievous by Annenberg and others that only emergency interventions will save the system from collapsing. Recently, a number of critics have suggested that higher education is also hovering on the brink of moral and sometimes financial bankruptcy. Yet, the reports of the death of American education may be premature; there is vitality in the system thanks in good part to the efforts of millions of teachers and professors. Despite the huge amount of criticism directed at education today, many students are invited to learn and a high percentage of them accept this invitation. Given the new wisdom about the dismal state of education, one might wonder how this is possible.

Douglas M. Abrams's new book, *Conflict, Competition, or Cooperation?* is a scholarly treatment of how the impossible dream of educational reform is made possible through the struggles of men and women who believe in the power of education to achieve a productive and just society. This is not to suggest that this struggle is always noble or idealistic; in fact, the politics of educational reform can be rough and tumble and at times downright nasty. By focusing on the political dynamics of organizational competition and cooperation between public and higher education policy elites in Utah, Abrams has provided us with a case study of how men and women "working within impersonal organizational structures and confronting organizational roles that they could not ignore, gave these roles substance and changed them with their unique human qualities" (p. xvii). The story Abrams tells is instructive.

Abrams defines power as the ability to act significantly within the policy process. Concretely defining the phrase "to act significantly" is, of course, difficult because action is difficult to define at times and significant action can only be evaluated in terms of observable outcomes. Abrams points out that the power structures of public education and higher education are different. Power in public education is diffuse, with decision making dispersed among "local elected boards, an elected state board, legislators, the teachers' union, and the business community" (p. 48). Moreover, public education is often staffed by individuals who consider protecting their own job to be of paramount importance. Power in

higher education, on the other hand, is much more top-down and narrowly defined. In some ways, this places higher education at an advantage when competing with public education for funds and other resources. Needless to say, job protection is also of great concern to individuals in higher education.

The author presents a four-factor model for analyzing political competition and cooperation between organizations: "the functional definitions of organization," "leaders and their organizational placement," "the stakes," and "mediating organizational structures." Using this open systems approach, the author creates a methodology for the microanalysis of political interrelationships. This methodology allows him to examine with a great deal of sophistication such issues as legislative appropriations, competing for domain, crisis management, and building an infrastructure. For anyone interested in how educational policy is created at the state level, this book is a must read.

At various times, the author discusses the impact of personality on policy creation. In my view, policy analysts and academics tend to minimize how competing personalities shape public policy, perhaps because personality is not a "structural" variable. Most observers agree, however, that the dispositions, attitudes, and motivations of individuals are key ingredients in organizational contexts. The dialectic between structure and personality is what gives each organization its recognizable and enduring character. Organizational life is a dense interpersonal network charged with competition, cooperation, aggression, and reconciliation. Abrams's open systems approach allows us to untangle the web of interacting personalities in the educational policy-making process.

Notwithstanding the author's systematic approach to the study of educational reform, one cannot help but feel that policy-making is more chaotic than scholars recognize. I am not convinced that policy-making is a rational process, because, if it were, many of our chronic educational problems would be resolved. I am not even convinced that the will to solve educational problems is as strong as many professional reformers indicate. Class conflict plays a significant role in policy formation and leads to many contradictions between stated purposes and actual outcomes.

This book is a fine case study that throws a great deal of light on a complex process. There is a restrained directness to the prose that makes for clarity and precision. It is a useful book for policymakers, students, and those members of the public who would like to understand the intricacies of how policy is created in the real world of state and local politics.

*School Choice: The Struggle for the Soul of American Education.* By Peter W. Cookson, Jr. New Haven, Conn.: Yale University Press, 1994. Pp. xv + 174. \$20.00.

Stephen B. Plank  
*University of Chicago*

School choice has inspired great passion and debate. Opinions range broadly regarding the rights of families in selecting schools, the potential for increased competition between schools to improve academic outcomes, and effects of expanded choice on stratification and segregation. The passionate and partisan nature of the debate has made it difficult to evaluate these issues objectively.

While passion and partisanship have clouded discussions, they also should alert sociologists to an interesting, but neglected, aspect of school choice. As Peter Cookson, Jr., recognizes, school choice is a rich example of a social movement. In *School Choice: The Struggle for the Soul of American Education*, Cookson calls choice a grassroots movement and compares the issue to gun control, abortion rights, and school prayer.

In addition to discussing school choice as a social movement, Cookson describes the variety of choice plans found in the United States. He then assesses existing research on the outcomes of choice in terms of student achievement, school improvement, and the rights of the citizenry. Cookson recognizes that the many variations that fall under the rubric of school choice make it virtually impossible to evaluate choice at a general level. Rather, he writes, one must react to specific plans. In this spirit, the author offers definitions of 12 variations of choice. These range from intradistrict choice, which allows students to choose schools within one public school district, to tuition tax credits, which allow parents to receive credit against their income tax if their child attends a private school.

Continuing the focus on specific choice plans, Cookson presents case studies from Minnesota, from Cambridge and Fall River, Massachusetts, from East Harlem and White Plains, New York, and from Milwaukee, Wisconsin. In assessing existing empirical work, he concludes that choice has made little difference in terms of student achievement. There is evidence, however, that choice has secondary effects that can raise the level of schools' academic climates. In terms of equity and integration, no consistent trends are found. The greatest benefits of choice appear to be in inspiring community and parental participation.

In developing the theme of school choice as a social movement, Cookson attempts to place the choice movement in its historical and contemporary contexts. He discusses the coalitions and ideologies that have advocated choice. In particular, he discusses the market metaphor and the faith in the efficacy of consumerism that are implicit in many pro-school choice arguments.

The contemporary roots of the school choice movement coincide roughly with Ronald Reagan's election in 1980. During the 1980s, the

"new paradigm" emerged, which had its roots in the market philosophy of Adam Smith. The new paradigm "hypothesizes that state intervention to resolve social problems in fact creates more problems because it robs individuals of their freedom of choice, their integrity, and their capacity to influence markets as consumers" (p. 34).

This emphasis on the importance of freedom of choice, and the efficacy of consumerism, is said to be complemented by evangelical Protestant influences, which give the market morality a spiritual fervor. Here I detect a factual error. Cookson cites Calvin as having said that individuals are responsible for their own salvation. In fact, traditional Calvinism taught that salvation was bestowed only by the grace of God. The zeal for hard work and worldly success that Weber described followed from deep anxiety and the search for a sign of God's grace.

This factual error does not fully negate this part of the book's argument. A link exists between Protestant individualism and the social philosophy underlying capitalism. But there is a problem with the book's analogy between (a) Calvinists believing that individuals are responsible for their own salvation and (b) school choice advocates desiring a system in which students are responsible for selecting a good school.

In assessing the market metaphor, Cookson cites evidence that people often choose schools for nonacademic reasons. This weakens claims that increased choice will lead to improved academic achievement. Further, Cookson makes a convincing argument that, without accountability, there are dangers "that families will receive shoddy educational products and may be defrauded by unscrupulous operators masquerading as educators" (p. 119).

The discussion of the market metaphor is part of the treatment of the ideologies that have guided the social movement that is school choice. At a general level, I feel Cookson has directed our attention in a fruitful direction by considering choice as a social movement. However, I am not convinced that "grassroots movement" is a good label for most examples of school choice in the United States, nor am I persuaded that the actions of the general public are directly influencing the decisions of legislators and school administrators in the majority of cases.

When Cookson describes the emergence of school choice legislation in Minnesota, it appears that the impetus for legal action was the personal quest of then-Lieutenant Governor Perpich and a coalition of legislators (p. 43). The establishment of the Miltona Science Magnet School appears to have been sparked by a principal and some teachers seeking to save their rural school during a period of consolidation (p. 47). Where grassroots organizations are central to choice debates, as Cookson asserts they are in Illinois, Pennsylvania, Arizona, Florida, Oregon, and Tennessee, it would be interesting to see more detailed descriptions of how these groups have organized and influenced legislation.

Cookson ends the book with an impassioned call for an inner-directed school reform based on a social covenant that guarantees every child's right to health, safety, decent shelter, nourishment, and the best educa-



tion we can offer. He asserts that the United States needs a strong and democratic public school system. Toward this end, he offers a proposal that would establish an educational trust fund for every child. The proposal includes elements of choice. And one gathers from the evidence in the book that the greatest potential contributions of choice are in the creation of nurturing communities and social trust.

This will not be the definitive book on school choice. But it is to be commended for clarifying the various forms taken by this ambiguous thing called school choice, assessing some of the existing empirical work, treating school choice as a social movement, and furthering the dialogue about what a nation can and should pass to its next generation.

*Parents, Their Children, and Schools.* Edited by Barbara Schneider and James S. Coleman. Boulder, Colo.: Westview Press, 1993. Pp. xv + 192. \$36.95.

Doris R. Entwisle  
*Johns Hopkins University*

This book consists of separately authored chapters that all focus on a timely and important topic: parental involvement in children's schooling. The NELS88 archive of the National Educational Longitudinal Study begun in 1988 (NELS88), which is used to study that involvement, includes information on parents' knowledge of their children's friends, various kinds of parent-school contact, and out-of-school educational activities parents provide, such as music or computer classes. The archive is based on a two-stage random sample of 26,000 eighth graders and their parents, plus teachers and administrators in 1,057 schools. Asian Americans and Hispanics were oversampled to allow them to be compared with African-Americans and whites. Space limitations prevent me from discussing all the chapters here, but those I discuss below are typical of the high quality of all.

Chandra Muller and David Kerbow describe how parents are involved in their children's education. Asian Americans talk the least with their children about planning high school programs, and tend not to know other parents or become involved with the school. Among the four cultural groups, they are the highest in restrictions on watching television and in enrolling their children in extracurricular classes. African-American mothers talk with children about program planning, participate in parent-teacher organizations (PTOs), and also enroll their children in computer classes at high rates. Unlike other groups, they engage in "crisis intervention" at a high rate, checking homework and contacting the school. Hispanics tend to spend more than the other groups on current educational expenses.

How parents' involvement affects students' grades and their achievement test scores is Muller's topic. The analysis shows that parental

involvement affects how well students do in the classroom, or perhaps how well teachers think they do, more than it affects test scores themselves.

Kerbow and Annette Bernhardt examine parent-initiated contact with the school about academic matters and participation in PTOs, especially how parental involvement differs across minority groups. They illustrate how conclusions differ when contextual level variables are estimated by hierarchical models as compared to ordinary least squares. One perhaps surprising finding is that "once average SES is taken into account, schools with very high concentrations of African-American and Hispanic students show significantly higher levels of both types of parent involvement. Parental activity is high in schools where minorities are most concentrated and where the level of economic disadvantage is high" (p. 126). They conclude that the time and energy teachers put into fostering parent communication *and* the teachers' racial identity (which tends to match that of parents in schools with high minority enrollments), encourages both parents' academic contacts and PTO participation.

Seh-Ahn Lee's chapter assesses the relative impact of parents' attributes (like money, education, race or ethnicity, and time) on test scores and grades, "compared with actions parents take with their child." Of 13 involvement variables, 10 are significant predictors of achievement scores, but their inclusion increases the explained variance (42.5%) by only 1.6%. In a parallel analysis to predict students' grades, eight significant parental involvement variables out of 13 increase the explained variance (36.2%) by 3.7%. Perplexingly, test score differences across different parent configurations (table 3.4) are standardized for parents' education, sex, and race, but *not* for income. Lee/says, "The low achievement [scores] of students in the mother only category is largely due to their disadvantaged background compared to . . . other family types. . . . Low grades of students in this [mother only] family type may be due to . . . lower incomes and lower parent education levels combined with a strong effect of these background factors" (p. 53). It is more than a semantic nicety whether differences in parent configuration or income are emphasized, especially since, except for those in mother-father families, students in mother-only families perform at the highest level on tests—higher than children in mother-stepfather, father only, father-stepmother, and guardian families, in descending order.

James Coleman, Kathryn Schiller, and Barbara Schneider explore parent choice and inequality. The parents' choice of a school is seen as a form of parental involvement, and the issue is whether expansion of choice would increase or decrease inequality. Through some hypothetical experiments, these authors arrive at three provocative conclusions: (1) Minority status brings a special responsiveness to choice that is not apparent among whites of comparable background. (2) For African-Americans and Hispanics the response to increased opportunities for choice is primarily exercised in choosing *among* public nonreligious high schools rather than choosing *between* public and private or religious schools;

whites show the least exercise of choice in the public sector. Asian Americans show a pattern all their own that includes an affinity for private schools and investments outside school. (3) Investments outside school through computer classes, tutoring, and saving for college provide more evidence of the special responsiveness of minority and immigrant groups to educational opportunity. The authors see a deeper form of disadvantage for students whose parents have low levels of education than for those whose parents are racially or ethnically in the minority.

This book is a careful study of the resources available to parents and the actions parents can take to further their children's education. As such, it contributes to several important policy issues, including how parental involvement can help improve the educational opportunities currently available to economically disadvantaged or minority high school students. At this stage there is usually much less parent involvement than there tends to be in earlier years of children's schooling, but clearly parents can make a difference at every age, including high school.

The analyses in the book are well crafted and clearly presented. Like other books based on analyses of one data set, however, this book provokes the reader's curiosity. For example, a common finding in surveys like NELS88, and one reported here also, is that minority parents of low educational levels have high expectations for the amount of schooling their children will complete, higher in fact than white parents have. The key word is "expect." What does it mean? What lies behind these parents' replies? Is it a hope, a judgment that discrimination is now less than when they attended school, a wish to express the "right" answer to the interviewer, a lack of understanding of the question or of what different levels of education really require, or something else that triggers these high expectations? It is hard to know how to unpackage variables that can be proxies for many things. Sociologists of all kinds will find this book worth reading, especially if they are interested in race and ethnicity and the overlap between family and school.

*Painful Inheritance: Health and the New Generation of Fatherless Families.* By Ronald J. Angel and Jacqueline L. Angel. Madison: University of Wisconsin Press, 1993. Pp. xxii + 264. \$52.00 (cloth); \$19.95 (paper).

John R. Weeks  
*San Diego State University*

This is a very interesting book—a research monograph that reads like a novel about health care in America. The authors have a story to tell and although we learn the basic plot from the book's title, the questions How did we receive the "painful inheritance"? Why is it painful? What are we going to do with it now that we have it? represent inescapable parts of the health care drama currently unfolding in the United States. Angel and Angel offer us a very lucid, balanced, and nicely written overview

of these issues as they relate to fatherless families. Here is a brief synopsis of their tale, phrased in terms of a legislative policy recommendation: *whereas* there has been an increase in the number and proportion of fatherless families in the United States as a result of the increased incidence of divorce and the increased prevalence of out-of-wedlock babies to young, single women—especially blacks and Hispanics; and *whereas* fatherless families—especially blacks and Hispanics—are at risk of serious health problems because they are economically and politically vulnerable and their welfare benefits are inadequate; and *whereas* the data support the conclusion that fatherlessness is bad for a child's physical, mental, and social health; and *whereas* spouselessness may undermine a single mother's overall sense of well-being—although a direct impact on the physical health of a spouseless woman has not yet been established; and *whereas* older adult females who have remained unmarried are at high risk of poverty and its associated health risks; and *whereas* preventing fatherless families is not politically feasible; *therefore be it resolved* that we should expand (restore) the amount and quality of health services provided to fatherless families—preferably through a system of national health insurance.

Do not be misled, however, by the fact that the above summary makes this book sound like a political tract. To be sure, the authors' point of view is very apparent in the book, but they keep it on the table while giving the reader a well-rounded picture. Much of the value of the book lies in the fact that the authors have tried to brush political correctness aside and provide the reader with a host of caveats and notes regarding the complexity of the causes of the rise in fatherless families, the complexities of measuring the health impact of being a child or a mother in a fatherless family, and the complexities of trying to mitigate the health problems associated with that family status.

This book will be an excellent supplement for a range of courses precisely because the authors provide point and counterpoint that could easily enhance and enrich class discussion. Let me offer examples relating to the issues of the causes of fatherless families, the health effects, and the mitigation of those effects. The authors do not offer a unifying theory to explain the rise in fatherless families, but they propose several possibilities, all of which are readily debatable given the existing literature. For example they suggest that "what we are witnessing is the rise of a new family form, one in which men play a peripheral role" (p. 8) and that in some inner cities "an increase in adolescent pregnancy, in conjunction with an absence of marriageable males, has made marriage a rare event" (p. 9). The implication is that men have degenerated to the status of studs, with little additional value to the women they impregnate. That line of thinking is consistent with the authors' statement that they "have little reason to believe that single motherhood, in and of itself, has any significant impact on the health of women and children" (p. 7). Well, we may not expect a direct proximate biological link, but the absence of the father almost certainly cuts into both the time and money that can

be spent on each child in a family. Therefore, I was not surprised to see the conclusion that "the data clearly indicate that a healthy two-parent family optimizes both the economic well-being and the physical and mental health of children. Those public policies and problems that both encourage families to stay together and provide them with an adequate level of material well-being provide a high potential payoff in terms of children's health" (p. 119). Maybe men are good for something after all.

Given the authors' seeming reversal on that issue, it is noteworthy that they essentially dismiss the policy options of trying to cut the rate of maternity among young, single girls while also increasing the incentives for males to take responsibility for their children. Rather, they resign themselves to fatherless families and propose ways to increase funding (implicitly at the expense of the elderly) to make them less risky. Whether or not one agrees with the authors' approach, the beauty of this book is that it gives the reader the material and the inspiration for a spirited debate on the subject.

*Gray Agendas: Interest Groups and Public Pensions in Canada, Britain, and the United States.* By Henry J. Pratt. Ann Arbor: University of Michigan Press, 1993. Pp. xii + 241. \$39.50.

Hugh Heclo  
*George Mason University*

Despite its title, this book says little about the agendas of interest groups and pension policy. The central purpose of *Gray Agendas* is to show that government enactments have had the unintended effect of promoting and shaping the formation of interest groups claiming to represent the elderly.

The author identifies the same four-stage sequence in each of the three countries being considered. In phase 1, a small number of fragile, but morally fervent, groups are inspired by foreign models to push for public pensions. Such is the state we have come to that evidence of people acting for humanitarian, inwardly moral reasons—"nonrationally motivated individuals" (p. 204)—can count as an important finding in the book's conclusion.

Phase 2 is ushered in by enactment of the first, narrowly drawn pension programs. Interestingly enough, this is seen to have had a negative effect on the creation and survival of senior citizen groups. Although early benefits are low and restricted in coverage, mobilization is discouraged (it is asserted) by politicians' rhetoric of reassurance and civil servants' control over detailed policy content.

Without much clue as to how or why these transitions are occurring, we arrive at phase 3. Pension coverage is now extended to the mass of elderly persons, but benefits remain inadequate. It is at this time that a small number of large, general membership organizations of the elderly begin to appear and gain governmental access and influence. While

Olsonian selective benefits of membership play some part, Pratt argues that it is more important that the near-universal programs created a climate favorable to making the elderly aware of a common interest and to organizing around that group interest to make further claims on government.

The transition from phase 3 to 4 (variously described as some time between the 1960s and 1980s) finds politicians making electoral appeals to the elderly as a distinct social group and expanding the prominence of government benefits for this group. In phase 4 the number and resources of seniors' organizations expands greatly and their survival becomes less problematic. Again, it is more asserted than demonstrated that this is because government programs have increased the elderly's awareness of government benefits and increased incentives for building group membership.

The book contains useful comparative information on the timing of interest group formation during the past century. However, anyone wanting an enriched sense of how "new policies create new politics" would do better to go back and read a book where that phrase first appears (E. E. Schattschneider, *Politics, Pressures, and the Tariff* [Hamden: Archon, 1963, reprint from 1935]). By comparison, *Gray Agendas* is awkwardly argued and unconvincing, and the final chapter provides a good example of these weaknesses.

The chapter begins with a series of disjointed comments on the theoretical implications of each phase. We learn, for example, that phase 2 supports functionalist theories (interest articulation had to occur somewhere, if not by interest groups then by politicians and bureaucrats) and that government in phase 4 was engaged in the social construction of reality. Next an alternative hypothesis that few people can seriously believe is presented (namely that interest group formation is purely a function of demographic trends). This straw man is agreeably exploded in favor of the view that government policy outputs are a necessary but insufficient intervening variable between demographic context and the temporal clustering of interest group births. National contrasts are shallowly drawn (British group activity is London-centered, Canadian is federalized, and the United States is more prolific and dispersed).

Finally we come to the big question: What about a phase 5? For those awaiting Theodore Lowi's breathless promise on the dust jacket ("Now, just at the right time, he returns to apply his wisdom and maturity to the upcoming crisis in the relationship between the elderly and the welfare state.") it is time to exhale. The analysis proceeds by asking an odd question that would seem of interest mainly to interest group employees: What would happen to elderly groups if government drastically cut or eliminated their support programs? Pratt's unremarkable answer is that some would be affected positively, some negatively, and some not at all. The author claims to provide "additional support" (p. 221) for this view by looking at two "analogous cases—dismantling the War on Poverty in the early 1970s and the Reagan cutbacks in the 1980s. After three

pages, the author concludes that these are not at all analogous cases (p. 224), that pension programs are too popular to be drastically reduced, and that from here on the formation and maintenance of interest groups may have little to do with the content of government programs.

*Supermarkets Transformed: Understanding Organizational and Technological Innovations.* By John P. Walsh. New Brunswick, N.J.: Rutgers University Press, 1993. Pp. xiv + 184. \$36.00.

Peter Birkeland  
*University of Chicago*

Retail food is an important component of the U.S. economy—both in terms of sales and of persons employed—and John Walsh brings to the forefront several key innovations that have appeared within this industry over the last four decades. For example, 40 years ago, the typical grocery store was small (under 6,000 square feet), family owned, and had a limited variety of goods. Today, many grocery stores are well over 40,000 square feet, they belong to large regional or national chains, and they offer a wide array of goods through specialty shops such as delis, bakeries, seafood counters, pharmacies, florists, and so on, under one roof. What accounts for this transformation of the retail food environment, and what other changes and innovations have occurred? Why are some innovations adopted and what factors lead to successful innovation? These are some of the questions (see p. 3) that motivate the study.

Walsh utilizes several methodologies in the course of the book. He conducted 70 45-minute interviews with various grocery store personnel in two firms. He also relied heavily on an industry trade journal, *Progressive Grocer*, and he made observations of workers during his own informal visits to the grocery store. Although the limited sample size constrains his ability to generalize, more serious problems arise because “change” is not differentiated from “innovation,” and the definition of innovation is nonstandard. Walsh argues that an innovation is not a new technology, but a “modified web of relations” (p. 25). There is not, however, an explicit analysis of the social relations among the actors in the system, so his conclusions appear to be conjecture. Despite this weakness, *Supermarkets Transformed* is an interesting analysis of an overlooked industry, and it contributes to the wider debate of Harry Braverman’s deskilling hypothesis (*Labor and Monopoly Capital* [New York: Monthly Review Press]).

Walsh tackles the complexities of the transformation of supermarkets through his “politicized context model, [which] combines environmental, technological, and political factors to explain the course of innovations in organizations” (p. 17). Walsh contends that the innovations and changes in retail food result from larger demographic, economic, and cultural changes in the social structure, and not from the strategic choices

of competing firms nor from the choices and decisions of actors within supermarkets.

For example, in chapter 2, Walsh argues that, because of a slowdown in population growth, an increase in the number of working women, and a change in preferences away from red meat and canned vegetables, firms experienced a decline in profits. But it would seem that preferences are constantly changing in society and that, despite a general slowdown in population growth, some areas are increasing rapidly as others are decreasing rapidly. Moreover, the decline in profits is partially due to the rise of fast-food restaurants—direct competitors of grocery stores. An analysis at the macro level lacks explanatory power, and the book works best as a description of three innovations within one of the firms in the sample: the centralization of meat cutting (chap. 3), the introduction of computerized scanners (chap. 4), and the decentralization of decision making to the shop floor (chap. 5).

Building on models of Hughes (*The Sociological Eye* [New Brunswick, N.J.: Transaction Books, 1984]), Walsh contends that innovations will only gain acceptance by workers if high-status tasks are added, or low-status tasks deleted, from a worker's "core" job. Walsh also argues that consumers will accept innovations if the change is in process, not in product. And firms will adopt an innovation that is "least disruptive" (p. 88). Thus, in chapter 3, firms utilized boxed beef rather than frozen beef, despite the latter being a more cost-efficient innovation. The introduction of boxed beef allowed the meat cutters to continue cutting, but it deleted from their bundle of tasks the onerous job of wrapping the meat; instead, a new class of worker emerged to wrap beef. The end product was the same, so consumers were unaware of an innovation, and management benefited because wrapping is a low-skill position with low wages.

In chapter 4, Walsh analyzes the introduction of computerized scanners, an innovation that has only partly succeeded because it was widely opposed by consumers and checkout clerks. Consumers and clerks did not oppose the *technology*, they opposed the removal of price labels on goods. Stores that used scanners in conjunction with price labels did not meet resistance.

Finally, in chapter 5, Walsh provides an analysis of the diversification of the shop floor—the addition of numerous positions and jobs within each new department. Walsh finds little evidence for the deskilling hypothesis, because workers were given additional responsibilities, often performing the tasks of management. However, it would seem that managers' skills have lessened because they now perform fewer functions.

Overall, Walsh provides an interesting account of an extremely important industry. The book works well as a description of specific changes within two firms and may be useful as a case study for understanding changes in work during the past 40 years.



*Checkerboard Square: Culture and Resistance in a Homeless Community.* By David Wagner. Boulder, Colo.: Westview Press, 1993. Pp. xi + 200. \$55.00 (cloth); \$17.95 (paper).

J. William Spencer  
*Purdue University*

The most recent emergence of homelessness as a social problem brought a proliferation of social scientific research focusing on the size, composition, and etiology of homeless populations. Conventional, survey-based research has typically pathologized the homeless, generating images of pathology, isolation, vulnerability, and disempowerment. David Wagner's *Checkerboard Square* is an excellent example of a small number of works that engage the homeless ethnographically (see also David Snow and Leon Anderson's *Down on Their Luck: A Study of Homeless Street People* [Berkeley and Los Angeles: University of California Press, 1993]). Such works represent important counterparts to conventional research by providing stories of the homeless through their own voices.

In this book, Wagner reports on a multiyear ethnographic study of a homeless community in "North City." A basic premise of this book is that, contrary to conventional images, the homeless are properly viewed as a community, or, more precisely, several communities. Wagner argues that, in response to humiliating, subordinating, and often violent experiences at the hands of family members, employers, and human service agencies, the homeless develop individual and collective identities in opposition to these conventional institutions. Implicitly drawing from a critical theory perspective Wagner uses the term "culture of resistance" to capture this collective response. As millions of people adopt this response, homelessness becomes symptomatic of a legitimization crisis of modern bourgeois society: "When millions of Americans are not dependent on the workplace, have left their families, and cannot be controlled by police or the government, this is indeed reflective of disorder and unrest within U.S. society" (p. 11).

There are many reasons for the paucity of ethnographic accounts of homelessness in 1980s, including the tremendous effort and commitment, as well as creativity, required of the ethnographer. One particular strength of Wagner's work is the unique methodology he developed for the study. Working through local contacts, Wagner's research team secured a list of 105 persons who had been present during a four-week protest in North City in 1987; ultimately they determined the whereabouts of 81 persons. Full-length ethnographic interviews were conducted with 65. Wagner built upon this first phase of the study by engaging in a more fully ethnographic study of the local homeless community. During this phase of the study, the research team systematically interviewed and observed members of the local homeless community during the daytime hours.

In the first half of the book, Wagner devotes separate chapters to the

meanings that family, work, and the human service system have within the culture of resistance in North City. He skillfully uses excerpts from his interview data to illustrate his findings regarding the subjects' experiences and perceptions. As an ethnography, Wagner's focus is on the contents of the culture of resistance and how it shapes members' daily lives. As such, the veridicality of the subjects' stories is a moot point. However, in using a critical theory perspective to interpret his data, Wagner is drawn into a concern for the etiology of homelessness and its culture of resistance. As a result, Wagner walks a fine line between a concern for the subjective experience and the objective reality of his subjects' lives.

The second half of the book focuses on the social organization of the streets of North City. This section is somewhat uneven at points. However, I found the strongest chapter to be the one concerned with subcultural variations among the homeless in North City (chap. 7). He describes the "street drunks," "street kids," the "social club" (mentally ill), and the "politicos" in terms of their respective backgrounds, normative orientations, and ties with conventional institutions. Since this chapter is as interesting sociologically as the entire first half of the book, I found myself wishing that Wagner had devoted the entire second half to this topic.

The radical critique of homelessness has been presented by, among others, Hopper and Hamberg (*The Making of America's Homeless: From Skid Row to the New Poor* [New York: Community Service Society, 1984]) and Marcuse ("Neutralizing Homelessness," *Socialist Review* 18 [1988]: 69–96). One of Wagner's unique strengths is his ability to deftly bring an essentially macro, structural, perspective of the etiology of homelessness to the voices of homeless individuals as they relate their personal histories and everyday lives. Whether he is relating stories of abuse suffered at the hands of the foster-care system or tales of petty criminal behavior, Wagner's manner is disarmingly matter-of-fact rather than sympathetic or accusatory. As a result, the subjects of this book are presented in all their humanity, their strengths and weaknesses revealed. This book should be mandatory reading for all academics or practitioners who think they know all there is about the homeless.

*Discourse and Destruction: The City of Philadelphia versus MOVE.* By Robin Wagner-Pacifici. Chicago: University of Chicago Press, 1994. Pp. xii + 174. \$34.95 (cloth); \$12.95 (paper).

Marc W. Steinberg  
*Smith College*

We ignore narratives of conflict at the peril of explosive consequences. This is the lesson that Wagner-Pacifici draws from the history of MOVE. In this short case study the author seeks to demonstrate how discourse has profound material effects in unleashing violence. Her analysis focuses

both on the history of the conflict between MOVE, its neighbors and Philadelphia officials that began in the late 1970s, and on the month-long investigative hearings on the siege and bombing of the MOVE house that triggered the fire of Osage Street in May 1985. The discursive analysis of the hearings anchors the study. Wagner-Pacifici explores how the discourses of the conflict were deeply implicated in its political dynamics and ultimately helped channel confrontation into conflagration.

The author identifies discourse analysis as both a means of gauging worldviews of actors and of charting how the limits of articulation affect their actions. The symbolic is thus constitutive and derivative of the material, both the product and producer of power relations. Drawing eclectically from a variety of theorists she seeks a middle ground between a poststructuralist prioritizing of discourse and a simple instrumentalism. Her analytic scheme highlights both the ways in which the MOVE conflict was constructed through particular discourses deployed by the participants and how these discourses were themselves in constant tension. In her analysis of the conflict construction she demonstrates how MOVE, its neighbors, city officials, and the local interlocutors she terms "organic mediators" sought to privilege their visions of the conflict. In her analysis of the tension among discourses, the author explores the interpenetrations of these discourses in the hearings as they mixed, through processes of contamination and hybridization.

Wagner-Pacifici opens her analysis by examining the contradictory identity of MOVE. From its initial homestead in Poletown Village—from which the group was evicted after a violent clash with police in 1978—to its house on Osage, the actions and discourse of MOVE produced disparate characterizations by neighbors and city officials. The police depicted MOVE as a terrorist organization, while the mayor's office articulated MOVE's identity as an intransigent extremist political sect. To both neighborhoods in which it dwelled, MOVE was a disruption to the good order of a civic-minded and respectable community. Over these years MOVE discursively constructed itself ambiguously as a vanguard political movement, a family, and a religion.

The remainder of the case study is a careful discursive analysis of the testimony of the October 1985 hearing, in which Wagner-Pacifici finds competing narratives. She identifies two pairs of discourses that predominate in the witnesses' accounts, the ends-oriented discourses of sentimental domesticity and war and the means-oriented discourses of bureaucracy and the law. Ends-oriented discourses provide the melodramatic lines of struggle. Within those of sentimental domesticity (as deployed both by neighborhood families and city officials) the MOVE story emerges as one of wholesome families pitted against the disruptive and motley MOVE household. Much of the dynamics of this discourse focused on the children of the two sides. MOVE actions were constructed as threatening the normative domestic life of neighborhood children, while MOVE children were ambiguously identified alternatively as feral, innocent, or as young terrorists. MOVE members sought to disrupt this

discourse by centering attention on the deaths of MOVE children in the May fire. Ultimately, it is the high melodrama of war that is used to explain the necessity of the final armed clash between MOVE and the police and the resultant bombing.

The discourses of bureaucracy and law proliferated by city officials intermixed with the discourses of sentimentality and war. These "means-oriented" discourses established the authorities' impotence in resolving the conflict while legitimizing their course to violence as tactical considerations. MOVE members disrupted legal discourse by seeking recognition for their imprisoned members, while neighbors legitimated their claims of peaceful domesticity within them. City officials constructed their actions as a regulatory response to MOVE actions, though this positioning created vacillation in their own actions. The limits of bureaucratic and legal discourses opened the path for the discourse of war, which framed the police as agents of last resort and their actions as a response to terrorism in a siege situation. Organic mediators, who sought a hybrid narrative for the solution of the conflict, ultimately were marginalized both within the dialogues of the conflicts and hearings. Within the interpenetrations of these discourses both excesses and silences determined the structuring of the final fashioning of the story of MOVE.

Wagner-Pacifici artfully dissects the testimony of both city officials and the police, and in the process she amply demonstrates the role of discourse in political conflict. However, both the theory and practice of her analysis raise three problematic issues. First, just what constitutes a discursive formation is not entirely clear. Wagner-Pacifici identifies the bureaucratic and legal "means-oriented" discourses as generalized formations.

Organizational actors speak through them to explain their actions in terms of inescapable institutional imperatives. Yet "ends-oriented" discourses of domesticity and war are invoked by a variety of the actors to legitimize their place and actions in the conflict. These ideal-types thus imply very different (though perhaps not contradictory) working models of discourse formation—one in which collective actors speak through certain discourses because of their structural positions (e.g., bureaucrats) and one in which collective actors make sense of the unfolding of significant events (e.g., political conflicts) by congealing themes, tropes, and metaphors into a formation. Second, this analysis is not so much one of the discourses of ongoing conflict, but of the *narratives* of a conflict, and the distinction is important. Virtually all of the discourse analyzed by the author derives from the October investigative hearings in which witnesses are creating competing retrospective narratives. This discourse is thus already temporally positioned against a whole discursive history that is its foundation and is not produced within that unfolding conflict. Witnesses are seeking to privilege their narratives within the context of the hearings. Finally, the discourse Wagner-Pacifici interprets is almost wholly interior to the hearings, thus providing a partial investigation of the discourses of conflict. In her analysis the author references about a dozen May-dated *Philadelphia Inquirer* stories but no other media,

government, neighborhood, or MOVE texts or records produced prior to or concurrent with the hearings. Within the author's own understanding of the interpenetration of discourses, this cannot thus be a complete analysis. *Discourse and Destruction* is thus best read as an insightful and nuanced account of how competing narratives are produced and contested within a formal public investigation.

*Dual Attraction: Understanding Bisexuality.* By Martin S. Weinberg, Colin J. Williams, and Douglas W. Pryor. New York: Oxford University Press, 1994. Pp. x+437. \$27.50.

Paula C. Rust  
Hamilton College

In recent years, AIDS and growing bisexual visibility have led to a resurgence of scholarly interest in bisexuality. *Dual Attraction* is one of the first books to result from this trend. It reports the results of (1) ethnographic research, (2) 1983 interviews with 100 self-described bisexual men and women, (3) a questionnaire survey of 682 heterosexual, gay or lesbian, or bisexual individuals in 1984–85, and (4) 61 reinterviews with 1983 interviewees in 1988. Subjects were recruited through organizations in San Francisco and selected on the basis of sexual identity. In the Kinseyan "sexual bookkeeping" tradition, *Dual Attraction* offers extensive quantitative data, including over 100 pages of tables. These data are augmented with qualitative data and quotes from subjects.

The authors define sexual preference as a combination of four dimensions: sexual identity, sexual behavior, sexual feelings, and romantic feelings. They measured the latter three dimensions with Kinsey-type scales. Quantitative data presented include subjects' scale ratings, the magnitude and incidence of changes in scale ratings over time, numbers of partners, incidence of anonymous sex, frequency of sex, forms and frequencies of multiple-partner relationships, relationship length, incidence of "unconventional" sexual practices, and average age at which subjects first experienced heterosexual and homosexual feelings. Data are organized by subjects' identities and genders, facilitating comparisons between bisexuals, heterosexuals, and homosexuals, and between men and women. The authors identify "types" of bisexuals, who are distinguished by the patterns of their three scale ratings. Although informative, the textual description of these data is tedious. Theoretical interpretations, when offered, are brief and pertain to only a portion of the data.

The qualitative data provide a refreshing contrast. Among the topics examined are bisexuals' perceptions of the physical and emotional differences between sex with women and sex with men, ground rules used to reduce jealousy in multiple-partner relationships, patterns of identity disclosure to others and others' reactions to disclosure, and bisexuals' perceptions of heterosexuals' and homosexuals' attitudes toward them.

The authors present a four-stage model of "becoming bisexual," ending with "continued uncertainty" due largely to social pressure to identify oneself as either heterosexual or gay or lesbian. A unique feature of the book is the discussion of transsexual bisexuals, whose efforts to develop stable sexual identities are complicated by their gender status. The effects of the AIDS epidemic on bisexuals are examined in detail. These effects include a general decrease in sexual activity and a shift away from the pre-AIDS idealization of nonmonogamy.

*Dual Attraction* proposes a general theory of sexuality that emphasizes the effects of social change and structures of sexual opportunity on sexual preference. The authors argue that gendered sexual opportunity structures lead to differential heterosexual and homosexual opportunities—and therefore different patterns of bisexuality—for men and women. Toward this end, the authors provide an ethnographic description of the organizations and events that constitute the bisexual scene. The general theory also involves the concept of a universal bisexual potential. This bisexual potential results from socialization that teaches all individuals what is erotic about their own gender as well as the other gender. Heterosexuality and homosexuality result when individuals unlearn the erotic qualities of one gender.

The book has several weaknesses. The research questions were shaped by a pilot study done before the 1983 interviews, hence the emphasis on sexual behavior and the "problem" of combining heterosexuality and homosexuality. More recent political and ideological issues facing bisexuals are left untouched. For example, the authors' treatment of bisexual ideology is limited to bisexuals' efforts to attribute a positive meaning to bisexuality as an identity.

*Dual Attraction* is also limited by a conceptualization of bisexuality as a hybrid combination of heterosexuality and homosexuality. For example, bisexuality is described as a form of heterosexuality to which homosexuality has been "added on." Bisexuals are described as having more potential sexual partners than heterosexuals or homosexuals, despite the finding that bisexuals report greater difficulty finding suitable partners; this conclusion can be maintained only by ignoring the importance of nongender characteristics in bisexuals' conceptions of potential partners. The authors note that factors other than gender influence attraction (p. 296), but this insight does not inform the organization or argument of the rest of the book. Contemporary counterparts of the researchers' 1983 subjects recognize gender as merely one factor that can be used to describe sexuality. They are challenging the dualistic view of sexuality and building a political ideology. *Dual Attraction* ignores these recent contributions of self-described bisexuals to sexological theory.

The authors do, however, propose some interesting concepts. They argue that bisexuality is based on an "open gender schema" in which one recognizes that gender and sexual preference are not necessarily related. This contrasts with heterosexuality and homosexuality, in which sexual preference is related to gender. Here, the authors refer not to the

point that sexual preference is defined in terms of gender but to the point that sexuality is an expression of gender. They argue successfully in the case of heterosexuals by asserting that heterosexual socialization is part of gender socialization. But they do not explain how relating to two genders instead of one is less an expression of gender, nor how gender and sexual preference are "reconnected" to produce homosexuality. The argument appears logical because of slippage between individual and collective levels of analysis; the fact that gender and sexual preference are uncorrelated and conceptually independent is irrelevant to the question of whether an individual's sexuality is an expression of gender. Nevertheless, the argument is thought-provoking and therefore a valuable contribution to social sexology, as is the massive amount of data.

## Book Notes

*In the Barrios: Latinos and the Underclass Debate.* Edited by Joan Moore and Raquel Pinderhughes. New York: Russel Sage Foundation, 1993. Pp. xxxix + 252.

*In the Barrios: Latinos and the Underclass Debate*, edited by Joan Moore and Raquel Pinderhughes, is a response by experienced researchers of Latino communities to the theoretical paradigm delineated in *The Truly Disadvantaged* by William Julius Wilson. The introductory chapter briefly summarizes the underclass debate, noting the criticism Wilson's argument has received from numerous scholars of Latino communities. Moore and Pinderhughes trace two distinct factors that account for the differential transformation of black and Latino neighborhoods. First, while the out-migration of middle-class blacks exacerbated deteriorating conditions in black neighborhoods, it was the in-migration of poor immigrants into established Latino communities that may have been critical in the transformation of these areas. Second, the editors posit that, in contrast to the decline of the black family and other institutions, Latino families have remained viable and continue to support their members. The book then turns to eight empirical studies of Latino communities, ranging from Puerto Ricans in Brooklyn to Mexicans in the U.S.-Mexican border region. Contributions include Mercer Sullivan, James Diego Vigil, Norma Chichilla, Nora Hamilton, James Loucky, Alex Stepick, Guillermo Grenier, Nestor Rodriguez, Felix Padilla, Phillip Gonzales, Avelardo Valdez, and Carlos Vélez-Ibáñez. The focus of the studies on Wilson's argument makes the volume invaluable not only for its empirical analyses of a relatively neglected population, but also for its theoretical insights in the continuing debate about the underclass.

*Newcomers in the Workplace: Immigrants and the Restructuring of the U.S. Economy.* Edited by Louise Lamphere, Alex Stepick, and Guillermo Gernier. Philadelphia; Temple University Press, 1994. Pp. ix + 309.

*Newcomers in the Workplace* is a collection of essays stemming from a single research project on the effect of the transformation of the U.S. economy on the work experience of recent immigrants. Using participant observation and intensive interviews, the researchers examine concrete instances of interaction of new immigrant streams and industrial realignment in Philadelphia, Miami, and Garden City. Although these three

Book notes are written by members of the book review editorial board.

© 1994 by The University of Chicago. All rights reserved.

0002-9602/95/10003-008\$01.50



urban areas vary in the structure of their local economies, each area has sustained growth in its immigrant workforce. The analyses are multilayered, and include not only macrolevel data comparing three local economies, but add microlevel analyses that focus on techniques of management control and the nature of the work process. Specifically, the authors draw inspiration from Harry Braverman's *Labor and Monopoly Capital* (1974) in their ethnographic approach and from Richard Edward's *Contested Terrain* (1979) in their substantive arguments. Despite the variety of labor market experiences of immigrants, the authors argue that the labor process and the structure of management control are central in shaping workers' experiences. The contribution of this volume lies in its integration of two research traditions and the poignant accounts of the work experience of recent immigrants.

*Immigration and Ethnicity: The Integration of America's Newest Arrivals.* Edited by Barry Edmonston and Jeffrey S. Passel. Washington, D.C.: The Urban Institute Press, 1994. Pp. 360.

This volume brings together work originally presented at an Urban Institute conference on immigrant integration into the United States. The eleven chapters utilize the latest available data on immigration to document trends in the origin and socioeconomic adjustment of recent immigrants in the United States. Barry Edmonston and Jeffrey S. Passel examine the ethnic and racial origins of the newest waves of immigrants and estimate the impact of recent immigration patterns on the future ethnic and racial composition of the U.S. population. The educational, economic, linguistic, and ideological integration of recent immigrants of diverse ethnic and racial origins is covered in several chapters by immigration specialists from the fields of economics, sociology, and political science. Other chapters address the settlement and secondary migration patterns of immigrants who legalized their status under the recent amnesty program and the dimensions of federal and state policies for dealing with recently arrived immigrants. Among the contributors to the volume are Frank Bean, Michel Fix, Rodolfo O. de la Garza, Gillian Stevens, Marta Tienda, and Wendy Zimmerman. The nontechnical presentation of the research collected in this volume, along with the range of themes covered, makes this book a useful resource for students and researchers interested in the dimensions and implications of contemporary U.S. immigration trends.

*Researching Women's Lives from a Feminist Perspective.* Edited by Mary Maynard and June Purvis. Bristol, Penn.: Taylor and Francis, 1994.

This volume provides an introduction to and update of feminist research practice, methods, and epistemology. The contributors are British schol-

ars in sociology and women's studies. The chapters explore the controversies and extend the debates surrounding feminist research. The contributors question traditional feminist tenets by arguing over the criteria for feminist research and challenging the implication that qualitative methods are necessarily more feminist than quantitative methods. They discuss the impact of the researcher's involvement in research, and they debate what constitutes validity in feminist knowledge. They acknowledge the contributions of postmodernism yet also admit grave reservations about the incompatibility of postmodernism's implications with the demands of rigorous empirical work and with particular political agendas.

These knotty issues are not just abstractions but are discussed in the context of the exigencies and practical decisions involved in empirical research. Contributors share the messy and sometimes confused journeys they took from theorizing to practice and back to theorizing. They give readers a glimpse of the complex theoretical, practical, and ethical dilemmas confronting feminist researchers; many of these issues are relevant to all analysts. This volume is a practical resource for researchers in sociology and women's studies and would be of particular interest to students of methodology.

*Bourdieu: Critical Perspectives.* Edited by Craig Calhoun, Edward LiPuma, and Moishe Postone. Chicago: University of Chicago Press, 1993.

According to the editors, the collection of essays included in *Bourdieu: Critical Perspectives* was assembled in an attempt to create a coherent assessment of the work of Pierre Bourdieu as a contribution to the "human sciences." The objective of this book is to counteract the disciplinary foci of American social scientists and humanists who, the editors believe, tend to fragment the ideas of Bourdieu such that his ideas are employed in a manner that makes them solely relevant to specific disciplines (i.e., his views on social and cultural reproduction have attained great stature in sociology, particularly in the sociology of education, whereas his arguments about the concept of practice, while maintaining little stature in American sociology, have become embedded in anthropology). Through an exploration of the epistemological bases for Bourdieu's employment of terms such as "habitus," "field," and "practice" and discussions of his attempts to transcend the "gap between the subjective and the objective dimensions of social life," this collection of essays attempts to speak to each of the audiences that may otherwise pay attention to select portions of Bourdieu's terminology while being less concerned with the interconnectedness of his scholarly agendas. Each of the 12 chapters of this book features a major social scientist or humanist (e.g., Aaron Cicourel, Rogers Brubaker, William Hanks, and Charles Taylor). Each chapter addresses either Bourdieu's application of a concept or his explication of

a theoretical problematic and concludes with an assessment of the adequacy of Bourdieu's attempt to generate scholarly advances for the respective issue. Additionally, each essay offers a statement on possible future research directions. The book concludes with comments by Pierre Bourdieu. This book is important because, unlike other considerations of Bourdieu's work by American sociologists, it offers an attempt to preserve Bourdieu's own emphasis on a cohesive social scientific approach for studying societal phenomena.

*Paying the Piper: Causes and Consequences of Art Patronage.* Edited by Judith Huggins Balfe. Urbana: University of Illinois Press, 1993.

In the sociology of culture, this volume is unusual in that its case studies focus primarily on patrons rather than on artists, audiences, or art. As Balfe's introduction explains, patrons differentiate themselves from audiences and consumers by their financial investment in the start-up of artistic endeavors. "As [patrons] are paying the piper, they assume that they can call the tune; audiences can only respond to whatever the piper plays" (p. 1). Contributors to the volume investigate how patrons, artists, and audiences influence one other, and they try to explain why patrons invest in the arts, often with unintended consequences. The case studies are organized by patronage structure. Part 1 focuses on direct patronage by private individuals. For example, Tia Denora's essay on the social basis of Beethoven's contested and ultimately celebrated style explains how embattled aristocratic patrons shaped and were shaped by the artist and by the social context in surprising ways. Part 2 addresses direct patronage by private institutions, while Part 3 discusses indirect patronage by city institutions. Parts 4 and 5 address direct and indirect patronage by state institutions. This organization allows the reader to evaluate the ideological underpinnings and the consequences of various patronage forms. Balfe concludes that artists tend to take their patrons in unforeseen directions, leaving them with something quite different from what they bargained for.

*Theoretical Research Programs: Studies in the Growth of Theory.* Edited by Joseph Berger and Morris Zelditch, Jr. Stanford, Calif.: Stanford University Press, 1993. Pp. 501.

This book consists of a collection of papers on the developmental history and current status of a number of sociological theories on microlevel interaction in the field of group processes. Leading theorists and researchers such as Neil MacKinnon, David Heise, Guillermina Jasso, and Karen Cook provide excellent overviews and descriptive accounts of the growth and application of theories such as affect control theory, the theory of comparison processes, and social exchange theory. The appeal of this book exists at two levels. First, as an analysis and overview of the theo-

retical programs covered, it will be of value to students and scholars interested in the field of group processes. On a second level, the book offers an engaging view of how in a particular branch of sociology, theory is developed, empirically applied, and further elaborated that will be of interest to scholars and sociological theory. For instance, in chapters written by Jonathan Turner and Bruce Bueno de Mesquita we learn how each of the authors' own theoretical programs evolved, the strategies they followed, and about the cumulative nature of the process of theory construction and growth.



## Cities, Classes, and the Social Order

ANTHONY LEEDS

This book brings together nine essays by Anthony Leeds (1925–1989) whose pioneering work in the anthropology of complex societies was built on formative personal and research experiences in both urban and rural settings. *ANTHROPOLOGY OF CONTEMPORARY ISSUES*  
\$39.95 cloth, \$16.95 paper

## The Global Restructuring of Agro-Food Systems

EDITED BY PHILIP D.  
MCMICHAEL

*"The Global Restructuring of Agro-Food Systems represents the new political economy of agriculture approach at its best, critically interrogating the macropolitical economic forces at work and sensitive to the myriad of forms in which world agricultures are being refashioned in an age of market triumphalism."*  
—Michael Watts, University of California, Berkeley. *FOOD SYSTEMS AND AGRARIAN CHANGE*  
\$42.50 cloth, \$16.95 paper

## Ethnic Politics

MILTON J. ESMAN

In this timely book Esman notes that virtually no contemporary nation-state is ethnically homogeneous. Most address the political effects of domestic ethnic difference, and many fail in the attempt—with devastatingly violent results.  
\$37.50 cloth, \$14.95 paper

## Law and Community in Three American Towns

CAROL J.  
GREENHOUSE,  
BARBARA  
YNGVESSON, AND  
DAVID M. ENGEL

*"An outstanding study of real life in real communities; nuanced and solid and insightful."*—Amitai Etzioni, author of *The Spirit of Community*. "[This book] explores how ordinary people in three towns view the law, courts, litigants, and sense of social order. . . . A unified text with useful findings."  
—*Library Journal*  
\$32.50 cloth, \$12.95 paper

## united states

THOMAS L. DUMM

*"This provocative, nettling, and quite brilliant book mischievously blends radical discontent with democratic hopes as it examines the purpose and promise of politics in an age of lurid media spectacles and shameless appeals to avarice, envy, and resentment."*—George Lipsitz, University of California, San Diego. *CONTESTATIONS*  
\$39.95 cloth, \$16.95 paper

## Bandits and Bureaucrats

*The Ottoman Route  
to State Centralization*

KAREN BARKEY

*"Barkey identifies the unique properties of Ottoman history, yet places it firmly into relation with the histories of other world-historical states."*—Charles Tilly, New School for Social Research. *THE WILDER HOUSE SERIES IN POLITICS, HISTORY, AND CULTURE*  
\$35.00

*At bookstores, or call  
(607) 277-2211  
(credit card orders only)*

# Cornell

U N I V E R S I T Y P R E S S

Sage House • 512 East State Street • Ithaca NY 14850

■ P R I N C E T O N ■

## THE HANDBOOK OF ECONOMIC SOCIOLOGY

Edited by Neil J. Smelser and Richard Swedberg

More than forty leading sociologists, economists, and political scientists examine the theoretical and empirical evolution of economic sociology; the social foundations of modern economic organizations; the interaction of economic factors with schools, the family, law, religion, work, and other institutions; and economic systems in historical, cross-cultural, and political perspectives. Original and far-reaching, *The Handbook of Economic Sociology* provides a state-of-the-art overview that will appeal to all scholars who are interested in the impact of economics on the lives of people and nations.

"... will be greeted warmly and read by serious scholars throughout the social sciences."—Robert K. Merton

"*The Handbook* provides a definitive statement of where economic sociology stands and where it is going. It will surely become the standard reference book for the field—the sort of text every scholar will have to know, consult, and cite."—Viviana Zelizer

A copublication with the Russell Sage Foundation

Cloth: \$95.00 ISBN 0-691-03448-6

## JOSEPH ALOIS SCHUMPETER

The Public Life of a Private Man

Wolfgang F. Stolper

In this major scholarly study of the life of Joseph A. Schumpeter, one of the great intellectual figures of the twentieth century, the distinguished economist Wolfgang Stolper delves into the mind of his former teacher, exploring the development of his ideas and, especially, their influence on politics and public policy. Drawing on a vast array of new and exciting sources, Stolper paints a portrait of his mentor as a decent, ambitious, and complex man whose many insights into economy and society found their way outside of the academy and into the practical world of economic policy.

Cloth: \$49.50 ISBN 0-691-04305-1

## AN INTELLECTUAL HISTORY OF LIBERALISM

Pierre Manent

Translated by Rebecca Balinski

With a foreword by Jerrold Seigel

Highlighting the social tensions that confront the liberal tradition, Pierre Manent draws a portrait of today's citizens of modern liberal democracies.

"Pierre Manent's work is a brilliant synthesis, as well as original and profound. The book is truly packed with new thoughts on well-known thinkers."  
—Harvey C. Mansfield

Cloth: \$19.95 ISBN 0-691-03437-0



## BEHIND THE MULE

Race and Class in African-American Politics

**Michael C. Dawson**

Political scientists and social choice theorists often assume that economic diversification within a group produces divergent political beliefs and behaviors. Michael Dawson demonstrates, however, that the growth of a black middle class has left race as the dominant influence on African-American politics.

Why have African Americans remained so united in most of their political attitudes? To account for this phenomenon, Dawson develops a new theory of group interests that emphasizes perceptions of "linked fates" and black economic subordination. This is one of the few works in black politics to present a new theoretical perspective by combining historical and quantitative evidence.

"Scholarship, in disciplines and subfields, significantly changes when mature, inventive and brilliant works emerge. This book is one such moment and event. . . original, creative and unparalleled representative research—scholarship that is in a class by itself."—Hanes Walton, Jr.

Cloth: \$35.00 ISBN 0-691-08770-9

*New in paperback*

## MAKING DEMOCRACY WORK

Civic Traditions in Modern Italy

**Robert D. Putnam**

*With Robert Leonardi and Raffaella Y. Nanetti*

"Seminal, epochal, path-breaking: All those overworked words apply to a book that, to make the point brazenly, is a *Democracy in America* for our times."—*The Nation*

"A great work of social science, worthy to rank alongside de Tocqueville, Pareto, and Weber. . . ."—*The Economist*

Now in paper: \$14.95 ISBN 0-691-03738-8

*New in paperback*

## POLITICS IN BLACK AND WHITE

Race and Power in Los Angeles

**Raphael J. Sonenshein**

"I was fascinated by Sonenshein's long-awaited book. He has compiled a compelling analysis of the genesis and growth of Black political power in Los Angeles, and his predictions about future alliances are right on target."

—Maxine Waters, U.S. House of Representatives

*Winner of the 1994 Ralph J. Bunche award from the American Political Science Association*

Now in paper: \$16.95 ISBN 0-691-02548-7

**PRINCETON UNIVERSITY PRESS**

AVAILABLE AT FINE BOOKSTORES OR DIRECTLY FROM THE PUBLISHER: 609-883-1759

# *Revue française de sociologie*

publiée avec le concours de  
L'INSTITUT DE RECHERCHE SUR LES SOCIÉTÉS CONTEMPORAINES  
CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE

59-61, rue Pouchet, 75849 Paris Cedex 17 – Tél. : 40.25.11.87 ou 88

AVRIL-JUIN 1994, XXXV-2

ISBN 2-222-96603-5

## ASPECTS DE LA VIE PROFESSIONNELLE

### **La modernisation des services professionnels**

Jean GADREY

### **Commerciaux du secteur bancaire**

David COURPASSON

### **Commerçants immigrés du métro**

Laurence COSTES

### **Les accidents du travail : innovation technique et jugement moral**

Nicolas DODIER

### *Débat*

### **A propos de l'insertion professionnelle**

Claude DUBAR

## REVUE DE QUESTION

### **Analyse de réseaux et sociologie des organisations**

Emmanuel LAZEGA

## LES LIVRES

### **Abonnements :**

L'ordre et le paiement sont à adresser directement à :  
Centrale des Revues, CDR

11, rue Gossin, 92543 Montrouge Cedex – Tél. : (1) 46.56.52.66  
CCP La Source 33-368-61 CDR-Gauthier-Villars

Les abonnements sont annuels et partent du premier numéro de l'année  
en cours.

*Tarif 1994 :* L'abonnement (4 numéros) France ..... 320 F  
Etranger ..... 400 F

### **Vente au numéro :**

Soit par correspondance auprès de :

CNRS Editions, 20-22 rue Saint-Amand, 75015 Paris  
Tél. : (1) 45.33.16.00 – Télex : 200 356 F

Soit auprès des librairies scientifiques

Le numéro ..... 110 F



**The complete results of  
America's most comprehensive  
survey of sexual behavior**

**THE SOCIAL  
ORGANIZATION OF  
SEXUALITY**

*Sexual Practices  
in the United States*

**Edward O. Laumann, John H. Gagnon,  
Robert T. Michael, and Stuart Michaels**

Based on interviews with 3,432 American women and men between the ages of 18 and 59, this landmark study addresses such questions as:

- How do age, gender, and marital status affect sexual behavior?
- How do women's and men's sexual lives and attitudes differ?
- How do social factors such as education, race, and religion affect sexual conduct?

With hundreds of charts, graphs, and tables, and the complete contents of the survey questionnaire, this work will be an indispensable reference for anyone searching for reliable information on the sexual practices of American adults.

Cloth • \$49.95 • 672 pages • 42 line drawings, 164 tables

**THE UNIVERSITY OF CHICAGO PRESS**

5801 S. Ellis Ave., Chicago, IL 60637

# **The Canadian Journal of Sociology**

## **Cahiers canadiens de sociologie**

**Editor:** Susan A. McDaniel

**Co-editors:** Richard V. Ericson, Nico Stehr

**Book Review Editor:** Rosalind A. Sydie

### **A vital source of information on Canadian society and international trends in the discipline**

The *Canadian Journal of Sociology*/*Cahiers canadiens de sociologie* is published quarterly at the University of Alberta. Since its founding in 1975, it has become a leading source of information on Canadian society, as well as new trends in the discipline internationally. Articles published represent a wide spectrum of sociological topics, perspectives, and approaches. Regular features include a book review section of important publications for research and teaching; "Notes on Society," a forum for commentary on issues at the forefront of society; and a comments section, for discussion and debate between readers and authors. Several special issues exploring specific areas of the discipline have recently included Quebec society and historical sociology. Abstracts of all articles are printed in English and French.

### **Recent and forthcoming articles**

Canadian recruitment of East Asian automobile transplants, **E.J. Yanarella** and **W.C. Green**; Mobilité géolinguistique de la population de langue maternelle française au Québec et en Ontario, **A. Langlois** and **C. Castonguay**; I can't come in today, the baby has chickenpox! **J. Blain**; Urban-rural residence and criminal victimization, **V.F. Sacco**, **H. Johnson** and **R. Arnold**; Locating the Canadian welfare state, **G.M. Olsen**; Christianity and community, **D.N. Winland**; Socioeconomic status and male violence in the Canadian home, **E. Lupri**, **E. Grandin** and **M.B. Brinkerhoff**; A social structure of many souls, **M. Dean**; Textile prison, **H. Bannerji**; They rule by sympathy, **K. Dehli**; Almost anything can happen, **M.L. Adams**; Manhunts and bingo blabs, **M. Little**

**Inquiries concerning manuscripts, advertising, book reviews, and subscriptions should be sent to:**

**The Canadian Journal of Sociology  
Department of Sociology  
University of Alberta  
Edmonton, Alberta  
T6G 2H4**

Paper Edition Now Available

# BEYOND THE LAW

## Crime in Complex Organizations

Edited by Michael Tonry and Albert J. Reiss, Jr.

This newest volume in the *Crime and Justice* series focuses on the latest research and commentary on criminal misconduct occurring in U.S. corporations and government agencies, with special emphasis on savings and loan fraud, insider trading, nursing homes, environmental pollution, and other forms of "white collar crime."

Leading experts from a variety of disciplines investigate these antisocial and unlawful behaviors, and further explore the roles of self-regulation, administrative regulation, and civil and criminal sanctions in shaping organizational behavior.

Organizational Crime, *Albert J. Reiss, Jr., and Michael Tonry*  
The Nursing Home Industry, *John Braithwaite*  
Insider Trading, *Nancy Reichman*  
Industrial Water Pollution, *Peter Cleary Yeager*  
The Cartage Industry in New York, *Peter Reuter*  
The Savings and Loan Industry, *Henry N. Pontell and Kitty Calavita*  
Crime, Justice, and the Savings and Loan Crisis, *Franklin E. Zimring and Gordon Hawkins*

**Michael Tonry** is Marvin J. Sonosky Professor of Law and Public Policy at the University of Minnesota. **Albert J. Reiss, Jr.** is William Graham Sumner Professor of Sociology and Lecturer in Law at Yale University.

1993 320 pp. Cloth \$35.00 ISBN: 0-226-80821-1  
Paper \$19.95 ISBN: 0-226-80823-8

*Beyond the Law* is Volume 18 of the *Crime and Justice* series, edited by Michael Tonry.

---

Order through your bookstore or directly from  
**The University of Chicago Press**  
11030 S. Langley Ave., Chicago, IL 60628  
Or call: (312) 568-1550

6/94

## Gays and Lesbians in the Military Issues, Concerns, and Contrasts

Wilbur J. Scott (*University of Oklahoma*) and Sandra Carson Stanley (*Towson State University*), editors

1994. Approx. 290 pages. References, Index.

0-202-30540-6 Cloth \$43.95. 0-202-30541-4 Paper \$21.95

Contributions to this collection present a balanced overview of the controversy surrounding the status of gays and lesbians in the U.S. military since President Clinton announced his intent to lift the ban on homosexuals in the armed forces.

## Towards a Structure of Indifference The Social Origins of Maternal Custody

Debra Friedman (*University of Washington, Seattle*)

1994. Approx. 200 pages. References, index.

0-202-30495-7 Cloth \$41.95. 0-202-30496-5 Paper \$19.95

This book provides a new perspective on the study of the legal change in presumption of child custody from fathers to mothers during the period 1880-1920, by examining the state's interest in the economic impact of such a change.

Prices subject to change.



**Aldine de Gruyter** (a division of **Walter de Gruyter, Inc.**)

200 Saw Mill River Road · Hawthorne, NY 10532 · (914) 747-0110

### STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION (Required by 39 U.S.C. 3685)

1. Publication title: AJS American Journal of Sociology
2. Publication number: 0002-9602
3. Filing date: October 12, 1994
4. Issue frequency: Bi-monthly
5. No. of issues published annually: 6
6. Annual subscription price: \$96.00
7. Complete mailing address of known office of publication: 5720 South Woodlawn Ave., Chicago, Cook, IL 60637-1603
8. Complete mailing address of the headquarters or general business offices of the publishers: 5720 South Woodlawn Ave., Chicago, Cook, IL 60637-1603
9. Full names and complete mailing addresses of publisher, editor, and managing editor:  
Publisher: The University of Chicago Press, 5720 South Woodlawn Ave., Chicago, IL 60637-1603  
Editor: Marta Tienda, 5835 Kimbark Ave., Chicago, IL 60637  
Managing Editor: Susan Allan, 5835 Kimbark Ave., Chicago, IL 60637
10. Owner: The University of Chicago Press, 5720 South Woodlawn Ave., Chicago, IL 60637-1603
11. Known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages or other securities: None
12. The purpose, function, and nonprofit status of this organization and the exempt status for Federal income tax purposes have not changed during preceding 12 months
13. Publication name: AJS American Journal of Sociology
14. Issue date for circulation data below: July 1994

### 15. Extent and nature of circulation:

	Average Number Copies Each Issue During Preceding 12 Months	Actual Number Copies of Single Issue Published Nearest to Filing Date
a. Total number copies printed	7,538	7,937
b. Paid circulation:		
1. Sales through dealers and carriers, street vendors and counter sales	3	2
2. Mail subscription	6,424	6,247
c. Total paid and/or requested circulation	6,427	6,249
d. Free distribution by mail (samples, complimentary, and other free copies)	163	146
e. Free distribution outside the mail	91	93
f. Total free distribution (sum of d & e)	254	239
g. Total distribution (sum of c & f)	6,681	6,488
h. Copies not distributed:		
1. Office use, left over, spoiled	857	1,449
2. Returns from news agents	0	0
i. Total (sum of g, h1 and 2)	7,538	7,937
Percent paid and/or Requested Circulation	96%	96%

16 This Statement of Ownership will be printed in the Nov. 1994 issue of this publication.

17. I certify that all information furnished on this form is true and complete. I understand that anyone who furnishes false or misleading information on this form or who omits material or information requested on the form may be subject to criminal sanctions (including fines and imprisonment) and/or civil sanctions (including multiple damages and civil penalties).

ROBERT SHIRRELL, Journals Manager

# SPECIAL BACK ISSUE SAVINGS

## American Journal of Sociology

Enhance your reference collection with significant scholarship from recent back issues. Choose single issues, volumes, or a set of all issues remaining in our inventory. But, hurry -- availability is limited to current inventory at the time your order is processed.

### FOCUS ON MARRIAGE, FAMILY, AND THE LIFE COURSE 96:4

**John A. Clausen**, Adolescent Competence and the Shaping of the Life Course

**Judith A. Seltzer**, Legal Custody Arrangements and Children's Economic Welfare

**Linda Waite** and **Lee Lillard**, Children and Marital Disruption

**Hiroshi Ishida**, **John Goldthorpe**, and **Robert Erikson**, Intergenerational Class Mobility in Postwar Japan

### THEORETICAL SOCIOLOGY

**Alan Wolfe**, Mind, Self, Society, and Computer 96:5

**William H. Sewell**, A Theory of Structure: Duality, Agency, and Transformation 98:1

**Dmitri N. Shalin**, Critical Theory and the Pragmatist Challenge 98:2

### RACE AND ETHNIC RELATIONS

**Douglas S. Massey**, American Apartheid: Segregation and the Making of the Underclass 96:2

**Verna M. Keith** and **Cedric Herring**, Skin Tone and Stratification in the Black Community 97:3

### MARKETS AND NETWORKS

**Wayne Baker**, Market Networks and Corporate Behavior 96:3

**Edwina Uehara**, Dual Exchange Theory, Social Networks, and Informal Social Support 96:3

**Werner Raub** and **Jeroen Weesie**, Reputation and Efficiency in Social Interactions 96:3

**Joel M. Podolny**, A Status-based Model of Market Competition 98:4

**Trond Petersen**, Individual, Collective, and Systems Rationality in Work Groups: Dilemmas and Market-Type Solutions 98:3

**Neil Fligstein** and **Peter Brantley**, Bank Control, Owner Control, or Organizational Dynamics: Who Controls the Large Modern Corporation? 98:2

### SOCIOLOGY OF CULTURE, 97:2

**Wayne E. Baker** and **Robert R. Faulkner**, Role as Resource in the Hollywood Film Industry

**Tia DeNora**, Musical Patronage and Social Change in Beethoven's Vienna

**Wesley Shrum**, Critics and Publics Cultural Mediation in Highbrow and Popular Performing Arts

**Set of remaining issues\*** (vols. 93-98) at 50% off: ☐ Individuals \$129.55 ☐ Institutions \$280.50

**Individual volumes 93-99\*** at 35% off: ☐ Individuals \$29.70 ☐ Institutions \$65.40

☐ Vol. 93 ☐ 94 ☐ 95 ☐ 96 ☐ 97 ☐ 98 ☐ 99

**Single issues\*** at 25% off: ☐ Individuals \$5.65 ☐ Institutions \$12.50

List by vol./no.:

\*Out of stock (not available): 93:2; 93:3; 93:4; 94:3. In limited supply: 93:1.

All journal rates include domestic postage. Outside USA add 75¢ per issue for postage. Canadians, please add 7% GST. to all back issue orders.

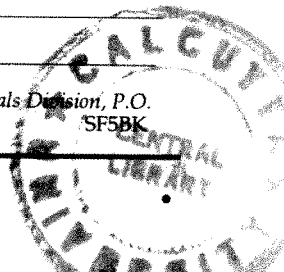
<input type="checkbox"/> Charge my	<input type="checkbox"/> Visa	<input type="checkbox"/> MasterCard	Exp. date _____
Acct. No. _____	Signature _____		
Phone(_____) _____			
<input type="checkbox"/> Check enclosed (payable to journal)		<input type="checkbox"/> Purchase order enclosed	

Name \_\_\_\_\_

Address \_\_\_\_\_

City/State \_\_\_\_\_ Zip \_\_\_\_\_

Please mail your order with payment to The University of Chicago Press, Journals Division, P.O. Box 37005, Chicago, IL 60637.





## Writings for a Liberation Psychology

IGNACIO MARTÍN-BARÓ

Edited by Adrienne Aron and Shawn Corne

Foreword by Elliot Mishler

A Spanish-born Jesuit priest trained in psychology at the University of Chicago, Martín-Baró devoted much of his career to making psychology speak to the community as well as to the individual. This collection of his writings, the first in English translation, reveals a major force in the field of social theory.

Gathering essays from an array of professional journals, this volume introduces readers to the concerns that shaped Martín-Baró's thinking over several decades, from the psychological dimensions of political repression and the impact of violence and trauma on child development and mental health, to religion as a tool of ideology. \$29.95 cloth

## Confronting Poverty

Prescriptions for Change

EDITED BY SHELDON H.

DANZIGER, GARY D. SANDEFUR,

AND DANIEL H. WEINBERG

Why is there so much poverty in America in the 1990s? What can be done to reduce it? In this book the leading experts on the issue review three decades of research on its nature, causes, and consequences. *Confronting Poverty* also proposes thoughtful reforms in employment and training, child support, health care, education, welfare, immigration, and urban policies, all crafted from the successes, as well as the failures, of policies over the past three decades.

A Russell Sage Foundation Book

\$49.95 cloth/\$19.95 paper

## Regulating a New Society

Public Policy and Social Change in America, 1900-1933

MORTON KELLER

A leading scholar of twentieth-century American history looks again at the beginning of the century, this time giving us a remarkable portrait of the emergence of modern society and its distinctive transformations and social problems. As in *Regulating a New Economy*, his earlier book on the changing American economy, Morton Keller integrates political, legal, and governmental history, now providing the first comprehensive study of the ideas and interests that shaped early twentieth-century American social policy. 19 halftones \$49.95 cloth

## Democracy Is in the Streets

From Port Huron to the Siege of Chicago

JAMES MILLER

With a New Preface by the Author

"Original and astute... Anyone interested in American political thought will want to study this analysis." —Paul Berman, *New Republic*  
\$14.95 paper

## American Apartheid

Segregation and the Making of the Underclass

DOUGLAS S. MASSEY AND

NANCY A. DENTON

"Essential reading for anyone interested in the causes, and possible cures, of urban poverty."  
—Roberto M. Fernandez, *Contemporary Sociology*  
\$14.95 paper

## Foundations of Social Theory

JAMES S. COLEMAN

"The most important book in social theory in a long time. Coleman demonstrates formally and with numerous examples that a rational choice model of behavior has enormous power in explaining social phenomena. This book will give sociology a strong push in a new direction."

—Gary S. Becker, Nobel Laureate  
Belknap \$27.50 paper

AT BOOKSTORES OR FROM

**HARVARD UNIVERSITY PRESS**

TOLL-FREE 800 448 2242



0002-9602(199411)100:3;1-3